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COMPUTING INTERNATIONAL

APRIL 1990

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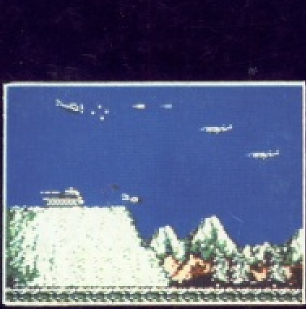
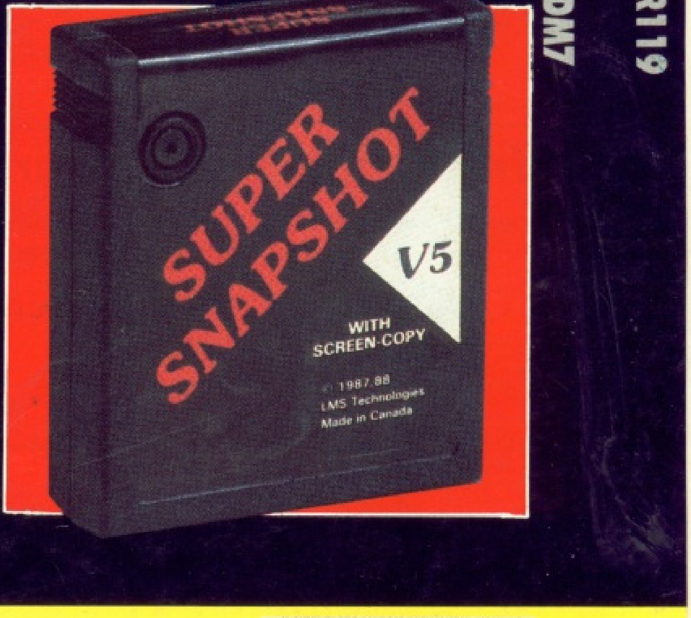


P47

TEST DRIVE II

SNAPSHOT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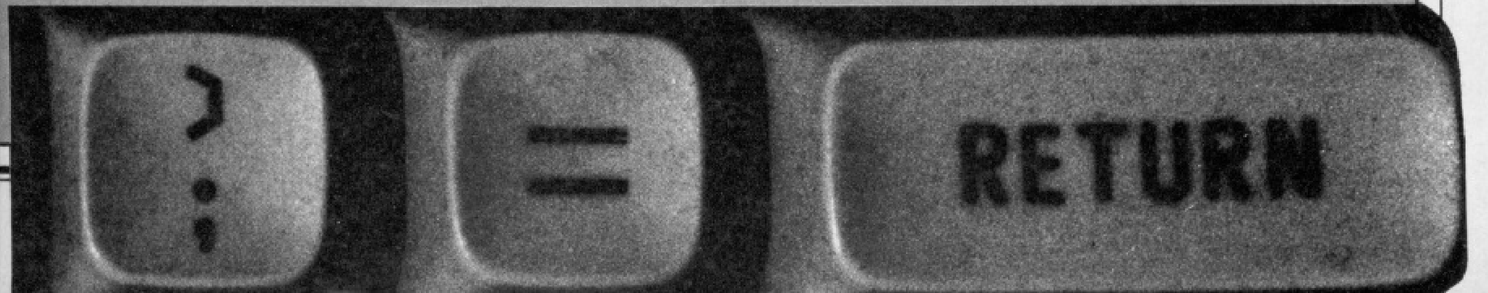

Dear CCI Reader,

A long time ago - it seems like centuries - when I first got involved with computers it was through mainframes. Those monsters had great big tape reels, most of them still do. You had to handle them, the computers and the reels, with considerable care. Later on, with the coming of the personal computers like the PET, disks arrived, mainly 8 inch ones.

The popular games consoles of the period took little cartridges, fortunately very robust, because their users were often young kids, but unfortunately rather expensive at around £25.00 a throw. Microsoft had the brilliant idea of putting an operating system on a disk and "floppies", 5 1/4 inch disks, began to spread like a virus on a bulletin board.

Some years later, the word "diskette" appeared and the smart, solid 3 1/2inch disk started to move into the floppy world. But its extra cost, wholesale 5 1/4 disks cost then about 25p and 3 1/2 around £1.00, meant the diskette has taken some time to make a real impact on the 64 and even the MSDOS fields.

For the 64, the 1541 and later the 1571 disk drives were popular and especially in the U.S.A., their use became practically universal. However, in Europe, where the number of 64 owners was large but mainly of young games addicts, the cassette player, subtley renamed the "datasette", was adapted to become the most widely-used storage medium. But it has never been a good one. Cheap yes, but delicate enough to be easily knocked off alignment in nine year old Adam or Victoria's bedroom.

The 64 has, of course, as we show in CCI, many other uses than just playing games. It is a genuine form of real life education. It can and has been used for scientific applications. It has very efficiently served for many differing kinds of business. And for any reasonable purpose, the cassette player is certainly not the most recommendable form of data storage.

What is? In music, the other area in which the cassette has been popular, it is being pushed out by compact disk. But CD storage is still too dear for the average 64 home computer user. For "serious" use I would recommend the 1581 disk drive with 3 1/2inch diskettes. It is ideal especially now that the price of the 3 1/2 inch is down to about 70p retail.

For games? Well, the answer is back to the past...cartridges. Yes, I know that there aren't any about now except on the stalls of the second-hand markets. But if what we have heard is correct, Commodore are about to fight the games consoles with a 64 without the dicey datasette, aiming entirely at the cartridge-based games market.

The cartridge port, dormant at the back of the 64 for years, is to be awakened and the 64 virtually relaunched, bundled with games cartridge software, so the rumour goes, from the best of the entertainment software publishers.

Cartridges, wholesaling at around £1.25, cost substantially more than cassettes (now available about 25p wholesale) but they will be sold at a higher price which means that more money will be made by the software companies. (Though with the larger numbers that Commodore could sell they shouldn't cost the exhorbitant £25.00 or so in the shops that the Sega and Ninentendos do today). So there shouldn't be any protest from the software companies particularly as cartridges virtually rule out piracy too.

It also means that as Commodore doesn't have to supply a datasette it can cut the price of a 64 pack to around £129.00 (down £20 on the price last Christmas) making it competitive with the regular consoles.

There will still be a cassette port usable for any existing software but as I have always thought the cassette player was good for music but lousy for computers, I should not mourn its passing.

"Plug it in and run it" is the summing up of the cartridge. If Commodore does go that way with veteran 64, it will just be following the correct route for the 1990's in making computers that are increasingly easy, ever more user-friendly. Even if CBM are exploiting an old idea and doing it with the home computer star of the past decade, it may be the best thing they could do for themselves and the computer game playing kids of the world right up towards the next century. And who knows, we might even get some good serious software too like the old Vizawrite word processing package that used come on a cartridge. No cassette, no drive, just cartridges. With battery backed RAM on a blank cartridge. Now that would be a really interesting development...

Antony Jacobson

Antony Jacobson
Managing Editor and Publisher

COMMODORE COMPUTING INTERNATIONAL

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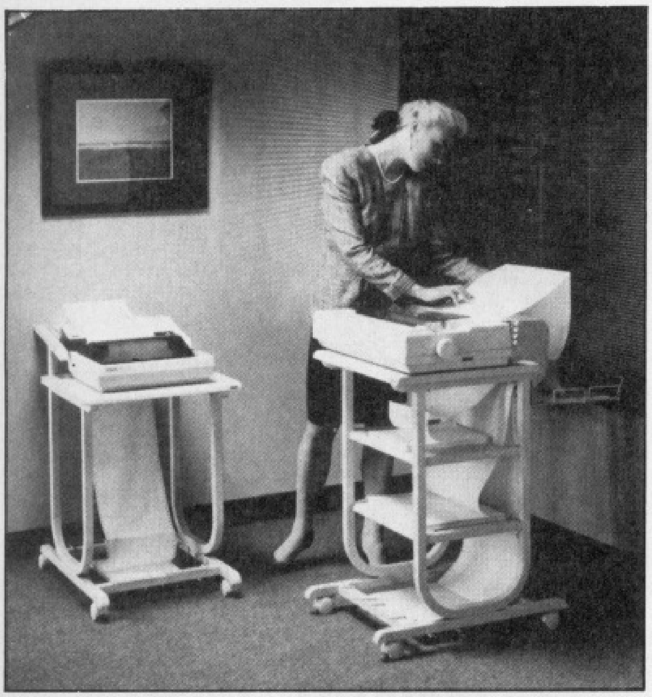
ACCO MULTIFEED AND FRONTLOAD PRINTER STANDS



Two new printer stands from Accodata, one of Europe's best-known suppliers of computer and office furniture, have been specially designed to harmonise with the modern office.

The Multifeed Deluxe printer stand, measures W550 x D440 x H850 mm overall, and if fitted with top and bottom print-out baskets.

The Super Frontload printer stand is a space-saving unit designed to stand against the wall. Paper is stored on a feed tray mounted at the base of the stand, and the print-out automatically folds neatly behind the printer. Price from Action is £118.00. Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx, HA0 1WL.

LIGHT SPEED COMPUTER

An experimental computer, which processes information using light rather than electriciy, has been demonstrated by AT&T Bell Laboratories of the US.

This optical computer system, claimed to be a world first, is a dinosaur in terms of processing speed - it is only as powerful as the chips in a washing machine. But because light travels more quickly than electricity, optical computers should be able to process more than 1,000 times as much data as their electronic brethren.

The AT&T system is based on a group of gallium arsenide, optical switching elements, each with a potential processing speed of 1bn pieces of information every second. The devices rely on molecular beam epitaxy, where materials are built up one atomic layer at a time. Each chip has 1,700 layers.

Initial explotation is likely to be in telecommunications, where optical computing would be combined with optical fibre cables, and in parallel processing computers.

MOUSE TRAPPING

Design a better mousetrap and the world will beat a path to your door - so runs the popular myth for would-be inventors. Well, an alternative to the Tom and Jerry style mechanical mousetrap - an electronic mouse detection system, called Mouse Alert - has been patented in the UK by Rentokil. This is nothing to do with mice that you plug into a computer - this is the real furry McCoy.

The system is intended for buildings where even an occasional mouse cannot be tolerated, or where the conventional methods, like posion, cannot be used. It consists of a series of carefully cited sensor boxes, designed to encourage mice to enter them, connected by cables to a control panel. Lights on the control panel warn the operator of the presence of a mouse. The sensor box it then replaced by a trapping box to kill off the mouse without the use of chemicals.

The infra-red beams that trigger the sensor in each box are protected by baffles so that only something the size and shpe of a mouse will set off the alarm.

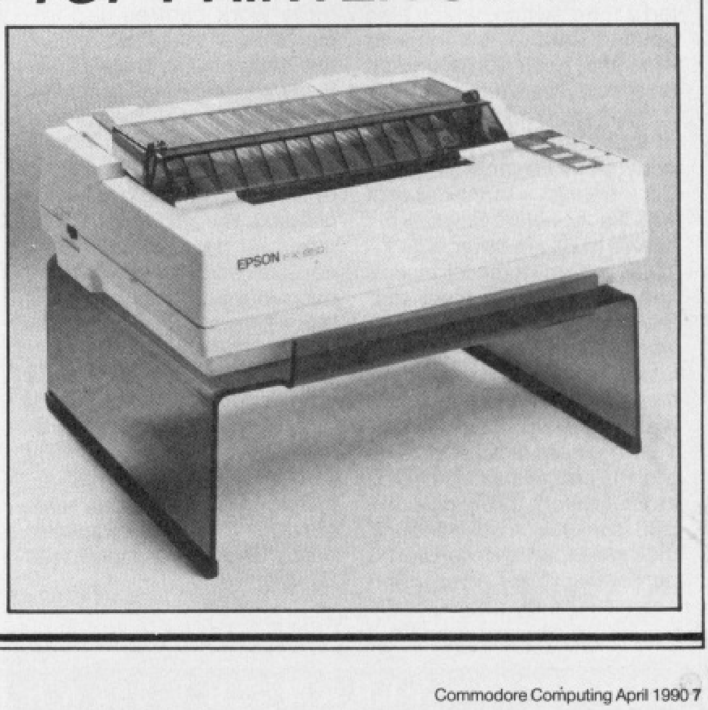
Once trapped in the box, the mouse is at the mercy of the pest controller. The usual method is lethal does of anaesthetic.

NEW DESK-TOP PRINTER STANDS

Action Computer Supplies has added four British-made units from South Western Acrylics to its range of desk-top printer stands. Moulded from 5 mm acrylic plastic, the stands have an integral rounded cable-tidy lip at the rear to ease paper flow.

The SWA Stands include 80-column and 132-column units, each of which is available in a low version, with paper storage depth of 135 mm, and a high version, with 180 mm clearance. Above is the 80-column low stand, available from Action at £21.50.

Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx, HA0 1WL



THE NINJA SPIRIT

Activision have announced the release of a new arcade conversion taken from the Irem copin-op. The game has seven levels, graphics and parallax scrolling.

Travel the chinese plank, equipped with Samurai sword, Deathstar, dynamite and lassoon razor blade. Dodge the devil spearsman who will stab you from underneath (ouch!) Catch the crystals which will give you ninja spirits to help you fight on, extra energy or the chance to use the flame rope in your most desperate moments. (Like receiving O.T.T. press releases!)

Grapple with PR people, ninjas, giant swordsmen, flying kitemen and diving wolves. Trundel over marshland and through forest, but don't get squashed between those boulders or stand on those bamboos. Climb the shearest of rock faces and watch out for poison gas. Will you ever get to the top? Do you have what it takes to confront the Last Warlock? Destroy him and you can go on to play with the wolves. (Or back to sleep....)

ONE BUG - AND THE USA SHUTS DOWN...

Defective software brought AT&T's long distance network close to collapse recently. Traffic on the network, among the world's most advanced, slowed right down as malfunctioning code turned a routine procedure into a nine-hour disruption.

It happened at 2:25 pm New York time on 15 January, just after problems - which were not related to the bug - occured in one of AT&T's New York City 4ESS packed switching centres.

A procedure that in such cases is routine - the switch taking itself down and signaled a third switch, which also notified another switch and then shut itself down, and so on across the United States.

Within 20 minutes, all 114 of the 4ESS switches on the network were jammed, said Bill Leach, manager of AT&T's network operations centre in Bedminster.

Monitoring the signaling networks made it clear that the Signaling System 6 network was operating normally, Leach said. This led the centre to conclude the problem was with the SS7 network.

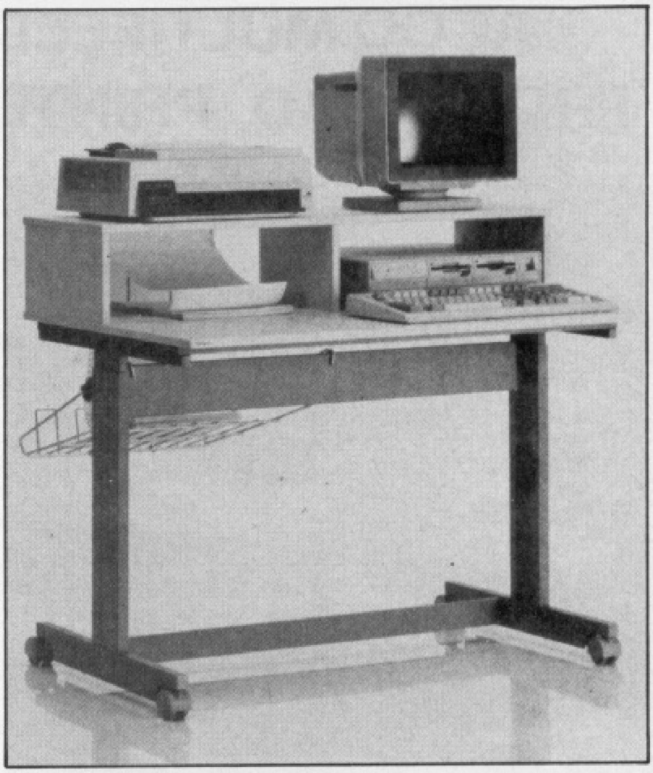
Between 4:30 and 5:00 pm, the centre started forcing more network traffic onto the SS6 trunks, quickly boosting their occupancy rate to 100 percent. The rerouting helped: The number of calls completed started improving immediately.

Meanwhile, at AT&T Bell Laboratories facility were trying out different configurations of the network, in an effort to find the problem.

"Limiting the network management signals required us to put in a software overwrite, an actual change in the program".

At 5:00 pm Bell Labs began electronically transmitting the network management overwrite to NESAC. The centre passed it on to AT&T's seven remote work centres. By 6:30 pm the remote work centres had implemented the overwrite in the switches in their areas. Software engineers were still trying to come up with an overwrite program that would solve the broader problem creating the congestion. By about 10:00 pm they had devised what they considered a temporary overwrite solution and used the western US as a trial region.

Once the overwrite's effectiveness was proven, it too was sent out to the remote work centres. By 11:00pm the network had returned to normal with a temporary, well-constructed patch. But the damage was done.



NEW TERMINAL TABLE

The simple but effective design of the Roffs Stralfors Terminal Table 6, at £189.00, allows it to accommodate a complete microsystem whilst giveing the operator working space and leg room.

The table measures 1010 x 700 mm overall, and height is adjustable from 665 mm to 725 mm. It has an open shelf unit at the rear on top of which the printer and vdu are mounted, with space underneath for both paper supplies and the cpu. Features include a removable paper catch basket, lockable castors and adjustable feet for levelling.

Contact:
Action Computer Supplies on 0800 333 333.

SHARPER TELETEXT

A sharper, more colourful television information system has been developed by a Norwegian company, Link Communication Systems (LCS), of Oslo, writes Lynton McLain.

The teletext system has 600 times as many colours and is 20 times as sharp as existing teletext systems, allowing designers greater scope with complex and intricate shapes in lauguages, including Japanese and Arabic, that would not reproduce well on current teletext systems.

Existing teletext has seven colours. The ConCept 3 design from LCS, based on a European standard called Cept 3, can reproduce 4,096 colours, up to 32 of which can be displayed simultaneously.

The screen resolution of the LCS teletext is 110,400 pixels per screen, compared with the 5,520 of existing teletext systems.

LCS is working with Granada Business Services to market the system, especially to hotels. The installation is at the Hyatt Carlton Tower Hotel, London.

MERLIN

BATMAN AND MERLIN...A DYNAMIC DUO

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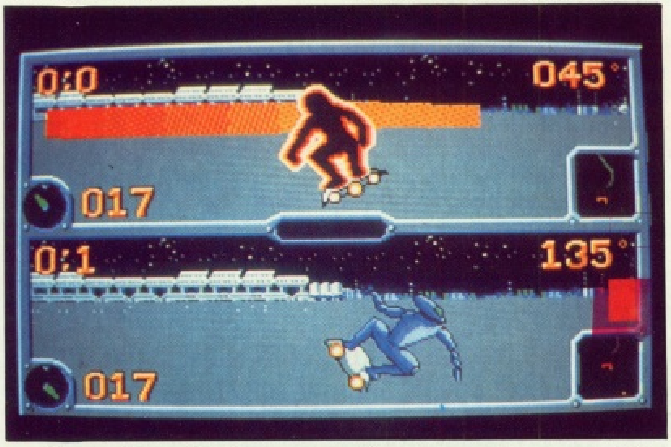
GO FOR IT, GONZO!

Wipe Out is a intergalactic hoverboard challenge. Well, maybe its more of a life or death struggle between the forces of evil and some punter waggling a joystick.



Or perhaps just an excuse to stay by your machine instead of going down to the pub at lunchtime and have just one more go... At least that's what new software house Gonzo Games tell us with admirable lack of hype.

There are myriad different species of opponents and your main task is to get to the centre of a humungous galazy (over 1,000 stars, each with up to eight planets and two different arenas) and qualify for the hall of fame all-time winners tournament. In each local league you can bet on your own game as well as the other matches in order to increase your credit rating and travel or purchase equipment. Any match in the league can be watched as all matches actually take place!

You can save your position and arrange to meet a friend on a nearby planet for a challenge which will affect both your ratings!

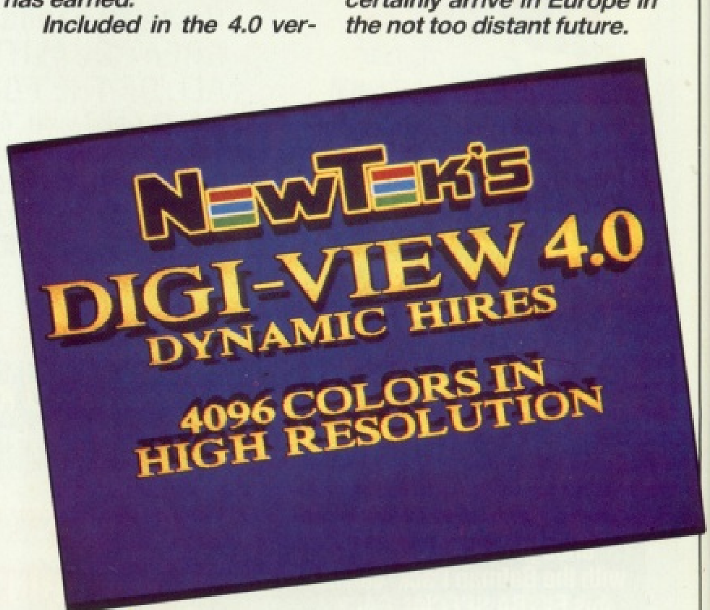
There really is no feeling quite like turbo-boosting past you hapless opponent, hanging a wickedly fast 180 degree turn and sliming across his path before he's realised what's happening. "Be warned - Wipe Out may be the only game you'll want to play for some time..." (Oh dear, we thought there was not going to be any hype... Well, at least they said 'some time' - not 'forever' or 'ultimate' as software houses generally claim).

NEWTEK RELEASES DIGIVIEW 4.0

The eagerly awaited 4.0 upgrade to Newtek's popular digitiser Digiview is now being released. Newtek tell us that it contains a number of exciting new benefits for Digiview users - who number hundreds of thousands around the world.

From what we have seen in a preliminary look, Digiview 4.0 certainly lives up to the established reputation for innovation that Newtek has earned.

Included in the 4.0 version is an exceptional 'Dynamic Hires' mode that offers some extraordinary results from difficult pictures. Newtek claim - with apparent justification - that it offers the highest resolution pictures ever on the Amiga. Rely on Newtek for achieving the impossible! And we hear that the long awaited Video Toaster is about to reach the public in the US and Newtek tell us that a PAL version will certainly arrive in Europe in the not too distant future.



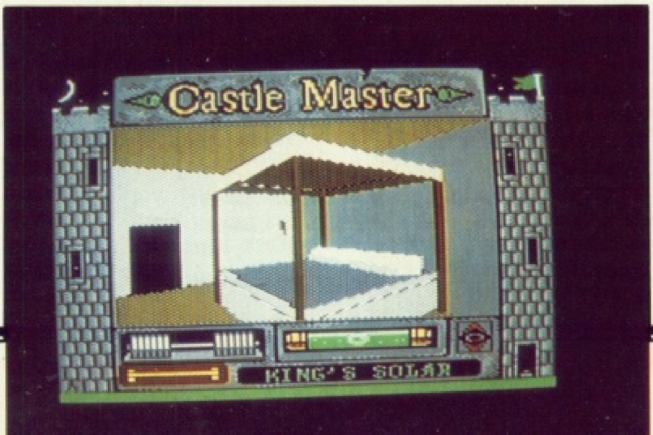
CASTLE MASTER

Castle Master, to be released in April, follows the signing fo an agreement in which Domark has licenced Incentive's action adventure.

Set in 16th Century England, the game revolves around two objectives. The main plot being to rescue a captive Prince or Princess from one of the four castle towers, no mean feat with numerous floors and rooms to each tower. You may be able to pinpoint the general direction by listening for the cries of help. Spirits hinder you progress every step of the way.

The sub-plot sets you the unenviable task of flushing out the many evil spirits infesting the castle. These may possess an animal or object and as you come close the castle shakes and an eerie banshee wailing will be heard. The only way to kill the spirits is to catapault rocks at them. The strength of the spririts can be read by glancing at the Spirt level. Should their combined strengths overpower you, you'll lose the game and the portcullis will come crashing down.

Featuring an Advanced form of Incentive's popular Freescape techniquie, the graphics are said to be precise and interesting. Castle Master will be packaged with a 24 page booklet, written by Mel Croucher (which Domark hope will not stop you buying the game).



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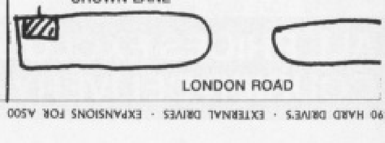

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CHECKMATE'S A1500

The A1500 is a new all-British product that will transform your Amiga 500 into the equivalent of a fully-loaded Amiga 2000.

It comprises two main parts. The base unit accepts all the A500 internals plus and extra hard, or floppy drive, plus an expansion slot that will accept a "flicker-fixer" or any 2000 video card. It also features a separate keyboard. Both the internal drive and the mouse/joystick ports are re-mounted to the front.

Secondary add-on units, each containing three B2000 slots, stack on top of the base unit and are internally connected to the unit beneath. The 86 pin expansion socket has been adapted and boasts a full 100 pin connector.

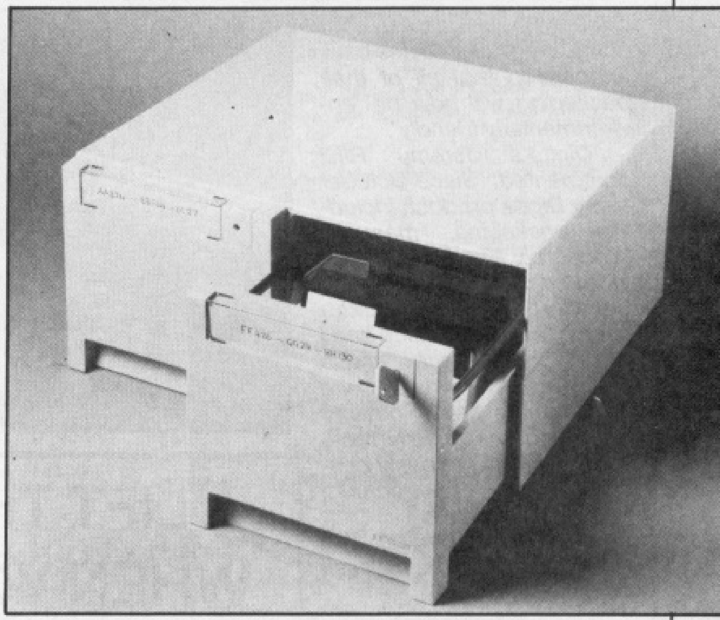
Prices for the units have yet to be finalised but Check Mate's Stephen Jones assures us that the cost of a fully adapted A500 should not be more than two-thirds of the price of an equivalent B2000. The base unit is expected to be about £200, each add-on unit £100 and a separate power supply unit around £50.

Check Mate are already planning a whole range of projects and enhancements for the A1500, including a full, industry standard midi interface and transputer boards.

All the units are 19" rack-mountable (a positive boon for musician/studio use) and are supplied in DIY kit form. Check Mate will also be offering a fitting service and new warranties for any work undertaken that invalidates CBM's own guarantee.

Contact: Check Mate on 01-923 0658.

DISK FILE UNITS



Accodata's new Disk Files are storage units made form high-impact, anti-static moulded plastic, and fitted with locks with special anti-static keys.

The 3 1/2 inch version, at £51.40, has three drawers designed to hold a total of 180 diskettes, but which can equally well hold 30 mini data cartridges, 30 audio cassettes, or 2 microfilm reels. The 5 1/4 inch version, at £43.15, has two drawers which can hold a total of 20 diskettes, 18 DC 600-type data cartridges, 4,000 micro-fiches, or even 80 compact disks.

Disk File units can be used individually or stacked, and are mounted on non-slip, anti-scratch pads. Drawers are removable, have built-in handles for safe carrying, and slots for easy labelling; four dividers are supplied with each drawer. Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx, HA0 1WL.

EA CARTOONERS: SOFTWARE FOR YOUNGER CHILDREN

Electronic Arts has announced the release of Cartooners for PC compatibles. A previous award winner for the Apple IIGS computer, Cartooners is created especially for children.

It is a computer cartoon studio with which users can create and animate colourful characters and scenery to produce musically accompanied stories. The program will motivate creativity and self-expression while providing entertaining results for the entire family.

Cartooners is the first product Electronic Arts has released specifically for an audience aged 6-12. They say it provides a stimulating climate for children to widen their imagination by creating their own animated movies with music and sound effects. Cartooners is compatible with DeluxePaint, DeluxePaint II and DeluxePaint II Enhanced from which additional characters and scenes can be imported.

Children can choose from over 40 characters to star in their cartoons such as dogs and cats, bunnies and crackling fires. Characters can then be animated in a variety of ways including dancing, walking and hopping. Ten scenes from a country road and rustic barnyard to a scary cemetery are available for creating the right setting. Children can apply speech ballons to each character to create all kinds of imaginative stories and reports for friends and classmates. Cartooners also contains a printing option for children to create their own full-colour, illustrated storybooks. Price £24.99

LOW COST ALTERNATIVE

Comtel Datacom is marketing a low cost network alternative for the PC, and Laptop market.

The 3X-LINK16 network uses the parallel port to connect up to 16 PC's and Laptops. The users can share resources such as Printers, Databases, Plotters, Files etc. There is no need to tie up a PC as a file server of install expensive adaptor cards.

The cost per station including the external parallel port adaptor and software, is less than £120, excluding cabling. Up to 16 optional printer spoolers could be used across the network. A two user Starter Kit, including cable is less than £250.

This is a very suitable system for offices which have less than 16 PC's, a few printers and other related facilities using the parallel port. It works in background mode and offers automatic script, electronic mail and multi-level password.

ARE YOU GREEN? BUY DIGITA!

Digita who specialise in economically priced utilites have announced that all of their packaging will now be 'environmentally friendly'.

Digita's Jeremy Rihll commented, "Since October every Digita product, including packaging, manuals, brochures, has been manufactured using Environment Friendly paper. The extra cost is a small sacrifice and I would encourage those manufacturers who require high quality paper beyond the standards of fully recycled paper, to seriously consider the Environment Friendly alternative."

Well done Digita! Will other companies please copy!

26 000 PAGES PER DAY

A document reading system which can cope with up to 26 400 hand-written or printed documents per day, but it should be economical for as few as 600 per day, has been introduced by Siemens Data Systems.

The A11font System 2800 highlights unrecognised characters on screen with a prompt, often requiring a single-key operation to make a correction.

The system comprises two readers which scan and store the data image, up to A4 size, and is based on the company's MX300 micro running Unix. It can be expanded to support six display stations and two printers.

The multitasking 32bit processor enables documents to be edited while new ones are being read. The system is equipped with a 310Mbyte hard disk and can be networked.

A LIFT THAT COMES WHEN YOU 'CALL' IT

A Japanese elevator is giving a new meaning to the expression "to call a lift".

The elevator, developed by the Toshiba Corporation, is voice controlled. So it stops when the would-be traveller summons it verbally.

Toshiba also claims that the controller, which can oversee up to eight lifts, can cut down waiting time by up to 10 per cent.

This is achieved by using a novel computer technology known as fuzzy logic. This interprets information which is imprecise, or "fuzzy", and gives as accurate a response as possible.

In the case of lifts, for example, it is extremely difficult to predict the exact journey of the car because the control mechanism often lacks advance information on the floors at which the car will stop.

Toshiba's Fuzzy Prediction and Control system instantly calculates how long intending passengers have been stuck there for 60 seconds or more.

FREEBIES

Would you like to learn how to design your own character set, write joystick-controlled action games or even program music and sound and much, much more?

Well, now you can with a little help from your favourite computer magazine. We have FIVE copies of the Commodore 64/128 Assembly Language Programming book to give away!

Simply send in your name and address on a postcard, marked Assembly Freebies, before 15th May 1990 and the first five luckly winners picked from the postbag on that day will receive a copy of this useful step-by-step guide to programming your machine.

BLACKTIGER

Long ago, when the world was a dark and evil place, (before Danielle of USG emerged from the fashion business) out of a black and troubled sky emerged three fearsome dragons - creatures from Hell, bearers of destruction, flame, fire and torment. The world was plunged into an age of devastation and misery. One man has the courage, power and skill to challenge these servants of Lucifer. No, it is not Geoff Brown USG says, that man is Black Tiger in the forth-coming Gold/Capcom game. You are Black Tiger. Armed only with your trusty mace, go forth and do battle - the restoration of civilisation in Birmingham is in you hands alone!

HAMMERFIST

ACTIVISION

Activision are releasing a strange new game about a corporate body that produces and operates holograms so powerful that they have taken over the two main cities of the planet.

Two holograms, however have personality modules irreversibly damaged in a electrical malfunction which has fused them together. Code-named Hammerfist and Metalisis they are set on a mission to destroy the hub of the Metro-holographix and so regain their separate identities again.

Just to keep your life peaceful hideously mutated beings are out to get you from all sides as you make the journey.

Maverick v3

Why is this Europe's Favourite C64 & C128 Disk Utility System?

All over Europe, users of other systems are going round in circles trying to answer that question. They want to know why Maverick is so popular. They want to know what makes Maverick so special. Well guess what — we're going to tell them.

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Maverick is the physical embodiment of a philosophy that has always been the foundation on which Kracker Jax products are built: Work as hard as possible to create the best product you can, and then improve it. Maverick v3 is already the most powerful archival system money can buy, so how do you improve on that? By adding new features like:-

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- *Ever lost valuable data to a fatal error on the directory Track 18? Or done a short "NEW" and then regretted it? Our new Automatic Directory Recovery Utility recreates Track 18 on 1541 formatted disks, doing hours of intense, critical Recovery automatically!*
- *An all new Advanced Sector Editor with 100% ML coding for speed and superior performance. Allows editing in ASCII, HEX and disassembly modes. Plus comprehensive on-line help screens!*
- *For GEOS v2 owners with 1581 drives, Maverick v3's GEOS Toolkit has a utility that allows you to transfer the incredible GEOS v2 over to your high speed, high capacity 1581 drive! This transfers everything, meaning you can now run the 64 or the 128 version from the 1581 alone, without using the 5¼" disk at all! And, the 800k 1581 disk leaves plenty of room to transfer all your GEOS applications over to the same disk! Essential for serious GEOS users wishing to unleash the power of Berkeley Softworks revolutionary operating environment.*
- *Maverick v3 now boasts 400+ parameters that either copy or entirely break potentially destructive protection schemes of some of the world's finest software. Even current Maverick owners will be amazed by the enhancements and additions made, including special RAMBOard support capabilities, exclusive to Maverick v3*

Additional Maverick v3 Features

- ★ *1541/1571/1581 Fast file copier, any direction*
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- ★ *Extensive 40 page documentation included*
- ★ *Fast File Copier utilizes video RAM & REU's*
- ★ *Relative file copier, 1541/1571 & 1581 drives*
- ★ *Produce working back-ups of GEO applications*
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- ★ *GEOS Module Parameters & TOOLS*
- ★ *GEOS Sector editor — works under desk top*
- ★ *Directory editor helps you organize disks*
- ★ *Works with 64, 128, 1541/1571/1581 drives*
- ★ *Technical support from our staff experts*

All of these new features are in addition to the amazing array of utilities usually found in Maverick. If there's a better value product on the market, we'd like to see it.

THE NEW MAVERICK v3.0 — ONLY £24.95

Now includes parameter modules 1,2,3,4 and 5. Maverick v3 (formerly Renegade) is available from FSSL. Products which work — from a company who care.

The 1581 Toolkit

Without it you don't know what your 1581 is capable of!

It shocked everyone at a recent London Commodore Show preview — it is The 1581 Toolkit by Kracker Jax, the makers of Renegade and Maverick.

While other companies rushed out ill-conceived and poorly executed programs to "cash in" on the new 1581 disk drive, our programmers took time to become experts on the 1581 before even looking at a drawing board. When they finished the Toolkit project a full year later, they had created a tight, integrated package of essential utilities that make the 1581 fly. We'll take your computer and 1581 as far as it was designed to go, then take it further.

The Fast Data Copier and Fast File Copier now supports 1764 for 3 pass copying, 1750 for 2 pass copying and 64k Video RAM (128 users) for 6 pass copying

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- ★ *Partition Creator*
- ★ *Track & Sector Editor*
- ★ *Error Scanner*
- ★ *Relocatable Fast Loader*

All of these custom utilities use extremely fast read/write routines. Where appropriate they allow full access to partitions. If you order now we will send you the 1581 DOS Reference Guide FREE! With over 100 pages of concise valuable information, this manual represents a year's worth of research and investigation into the inner working of the 1581 drive and includes a complete commentated ROM disassembly listing.

THE 1581 TOOLKIT (on 3.5" disk) ONLY £34.95

Includes your FREE 1581 DOS Reference Guide. The 1581 Toolkit, works on the C-64 or the C-128/C-128D in the 64 Mode.

Super Snapshot v4

The State of the Smart

The Cartridge Wars. For a while it was tough going — but we kept fighting to be the best. Now public opinion is unanimous, the Cartridge Wars are over — and Super Snapshot is the clear winner!

We've given Super Snapshot v4 enough capabilities to dazzle even the most demanding power user, but also worked hard to give those utilities a sense of style and grace.

So when choosing a multi-function cartridge system, choose Super Snapshot v4 — the cartridge designed to appeal to a higher intelligence. Yours!

Features Include:

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- ★ *Attention 128 and 128D users — 64 disable switch now available. Allows you to boot 128 software without removing cartridge. Add £8.50.*

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NEW E-MAIL SERVICE SEGMENTS DRIVE MARKET GROWTH

The total world market for electronic mail services was about $600 million (£400 million) in 1988, and is expected to grow through 1995 by a compound annual rate of 34.6 percent. Growth is stimulated by the need of business and government customers to find a more cost-effective, quick, and paperless form of communication. These and other key findings are revealed in a new report, "US-based and Worldwide Electronic Mail Services Market," just released by Market Intelligence Research Company.

Two market segments are expected to climb from zero to over 1.5 billion dollars (£1 billion) by the end of the 1995 forecast: (1) Applications - specialized E-mail message sending formats used to expedite and automate the sending of a particular type of message that is used frequently; and (2) Media Transformation - systems that allow E-mail messages to be converted to other media for final delivery.

Rapid growth is also attributed to competition among the major E-mail service providers, due to deregulation in the marketplace, and the expansion of services available for E-mail. Strong growth will prevail among those companies able to market to specific niches in the industry, by providing value added services to customers.

HAVE BLEEPER, WILL TRAVEL

First it was the portable phone. Then came the electronic diary. But the latest electronic badge of yuppie-dom must surely be the wrist-watch pager.

In the UK, Mercury Paging will start selling the digital watch-cum-pager from Motorola, of the US, in the spring. The two-ounce time-piece has a liquid crystal display which reveals the time in the top half and the day and date underneath.

When a message is sent, the wrist-watch "bleeps". The message - a phone number, for example - can either be called up on the bottom half of the display or stored, to be looked at later.

$50 BILLION BY 1993!

In 1985 worldwide sales of computer hardware and software sold to the engineering and scientific marketplace totaled $20.9 billion (£13 billion) and by 1988 sales increased to $29.6 billion (£18.5 billion). In 1989, sales are expected to reach $33.1 billion ($20.6 billion), rising to top $50 billion (£31 billion) by 1993.

This and other key findings are revealed in a new report entitled, "Engineering and Scientific Computer Martkets Today: Marketplace and Strategies", published by Market Intellingence Research Corporation. This report surveys computer hardware and software sold to the engineering and scientific marketplace.

LOGOTRON CLOUD KINGDOMS

Cloud Kingdoms is the first Logotron tells us that the upcoming release, to have an injection-moulded, eight-way rolling, rubber bottomed software hero!

The hero of Cloud Kingdoms is a character of a style typical of Japanese games such as Bubble Bobble and The New Zealand Story. The game is simple and Logotron insist, "frustratingly addictive", featuring eight-way scrolling, thirty-two different levels, a wide range of collectables and a host of pitfalls for the unwary player!

In Cloud Kingdoms, the action is viewed from above looking down onto each kingdom which floats high above the clouds, with parallax scrolling clouds below each kingdom.

Cloud Kingdoms has been designed by Dene Carter, creator of 'Druid' and 'Enlightenment'. Price £24.99

RHCs GIVES OPPORTUNITY TO VOICE MESSAGING

We recently reported on the growing area of voice computer communications. According to a new report, "Voice Messaging Services Market," just published by Market Intelligence Research Company, the technological explosion of voice processing equipment and its increased sophistication are expected to have a positive impact on the voice messaging industry up to 1995. The report reveals that this trend is due to the increased use in the home and business segments. The most noticeable hurdle for development is customer unfamiliarity with the advantages of technological advances. The report projects an increased market demand, one in which there will be room for all levels of service providers.

This in-depth analysis of the voice messaging services industry focuses on voice mail and CII answering. Forecasted market segments include:local and regional voice message services, nationwide voice messaging, and end-user by type. Each of these segments are analyzed in terms of revenues and revenue growth rates, and comprehensive market and technological trends.

Contact: MIRC Europe, 55 rue Vandenhoven, 1200 Brussels, Belgium.

GPTERM-AMIGA V4.0

An Australian communications software program featuring full Videotex and ANSI terminal emulations has been released.

Developed in Australia to specifically meet the needs of the Amiga user who wishes to access a variety of communications services GPTERM-Amiga is claimed to be the only software to provide comprehensive terminal emulations for both videotex and ANSI in the one program.

Designed with the beginning comms user in mind, GPTERM-Amiga also provides another features and shortcuts for the experienced user.

GPTERM-Amiga is packaged with an extensive manual and is not copy protected. Recommended retail price (Australian dollars) $99.00. Contact: Dr Greg Perry of GP Software (07) 366 1402.

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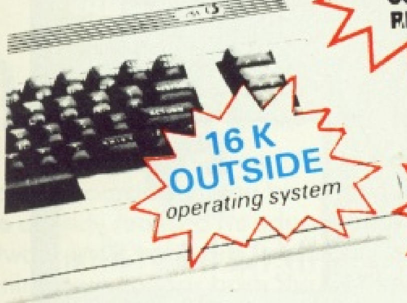

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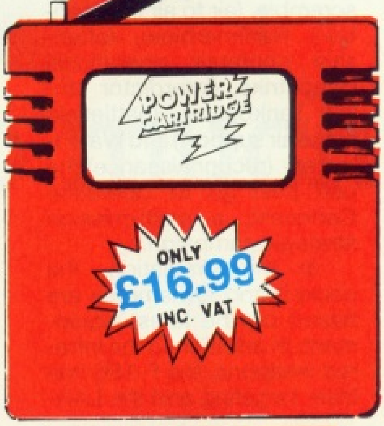

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HARDCOPY
HEX$
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KEY
PAUSE
PLIST
ILOAD
RENUMBER
REPEAT
SAFE
TRACE
UNNEW
QUIT
MONITOR
BLOAD

RENUMBER : *Also modifies all the GOTO's GOSUB's etc. Allows part of a program to be renumbered or displaced.*
PSET : *Set up of printer type.*
HARDCAT : *Prints out Directory.*

The toolkit commands can be used in your programs.

DISK TOOL

Using POWER CARTRIDGE you can load up to 6 times faster from disk.
The Disk commands can be used in your own programs.

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DISK
DVERIFY
MERGE
DIR
DEVICE

MERGE : *Two BASIC programs can be merged into one.*
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T TRANSFER
V VERIFY
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X EXIT
$ DIRECTORY
DOS Commands

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The HARDCOPY function automatically distingishes between HIRES and LORES. Multi-colour graphics are converted into shades of grey. The PSET functions allow you to decide on Large/Small and Normal/Inverse printing.
The printer PSET functions are:

PSET 0 - *Self detection Serial/Centronic*
PSET 1 - *EPSON mode only.*
PSET 2 - *SMITH-CORONA mode only.*
PSET 3 - *Turns the printing 90 degrees!!*
PSET 4 - *HARDCOPY setting for MPS802/1526.*

PSET B - *Bit-image mode.*
PSET C - *Setting Lower/Upper case and sending Control Codes.*
PSET T - *All characters are printed in an unmodified state.*
PSET U - *Runs a Serial printer and leaves the User-port available.*
PSET Sx - *Sets the Secondary address for HARDCOPY with Serial Bus.*
PSET L1 - *Adds a line-feed, CHR$ (10), after every line.*
PSET L0 - *Switches PSET L1 off*

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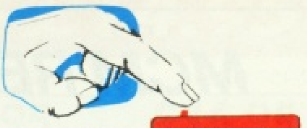

On the back of the POWER CARTRIDGE there is a Reset Button. Pressing this button makes a SPECIAL MENU appear on the screen.

CONTINUE - *Allows you to return to your program.*
BASIC - *Return to BASIC.*
RESET - *Normal RESET.*
TOTAL BACKUP DISK - *Saves the contents of the memory onto a Disk. The program can be reloaded later with BLOAD followed by CONTINUE.*
RESET ALL - *RESET of any program.*
TOTAL BACKUP TAPE - *As BACKUP DISK but to TAPE.*
HARDCOPY - *At any moment, prints out a Hardcopy of the screen. Using CONTINUE afterwards you can return to the program.*
MONITOR *Takes you into the Machine language Monitor.*

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TRADE AND EXPORT ENQUIRIES WELCOME

64 FLYING HIGHER

One of the most highly acclaimed 16 bit games and one of the best flight simulators is shortly to be available on the Commodore 64. The game is F-16 Combat pilot from Digital Integration.

DI's boss Dave Marshall tells us, "The C64 version will still contain most of the thrills of the 16 bit original".

F-16 Combat Pilot takes you from the crew room to the hangar, through pre-flight briefing and then into the cockpit of the latest high-tech version of the F-16 Fighting Falcon. Permutations are endless and when the pilot has mastered scramble, (air to air interception) Hammerblow, (offensive conterair operations) Deepstrike, (interdictor strike) Tankbuster, (battlefield close air support) and Watchtower, (reconnaissance) he can then go to Operation Conquest, a multi-mission strategic campaign.

In the simulation, the cockpit and armaments are based on the latest equipment. In addition to the infrared weapons, the F-16C has laser targeting and the LANTIRN target recognition and selection module which also enchances night visibility. Also included are the latest AMRAAM missiles which have a range of over 30 miles.

Included is a Quickstart facility for the pilot who wants to get off the ground as quickly as possible; but those who do not wish to take short cuts can start life as trainees. They will be assigned to the Tactical Fighter Training Squadron where every aspect of the pilot's capabilities will be tested.

Pilots then progress to operational status with one of the eight squadrons. Each squadron is responsible for sorties within its operations area. It is possible to transfer to a squadron of higher status as you gain more experience.

Experienced pilots may assume the role of Squadron Commander and be placed in charge of Operation Conquest, in which all of their skills in flying and tactical planning are tested to the full. F16 C64 will sell for £14.95 cassette. and £19.95 disk.

F-16
COMBAT PILOT
BLACK BOX
Digital Integration

MCM RELEASES

MCM have announced the availability of a number of new products for the Amiga and PCs.

Tiger Club: 12 track sequencer, graphic editing and notation able to print to dot matrix and laserwriter. Endorsed by Roland UK as part of their CM module package. Amiga version available now. Price £99.00.

KCS V3: Now fully GEM compatible with many new features including Automix which gives 32 graphic faders assignable to any sys ex number. Tempo, volume, pan etc can recorded in realtime. The faders also move on playback. Amiga version available now. Price KCS £225.00 and KCS Level II £299.00.

Master Tracks Pro: "The most graphic pro sequencer available for the PC and compatibles". 64 Tracks, graphic editing, SMPTE compatible. With a midi interface and midi transport with SMPTE, Master Tracks allows 32 independant midi channels. MSDOS version available now. Price £285.00.

Intro: This is proving to be a very popular starter package for the PC as it incorporates a very intuitive 16 track sequencer with good graphics, a 16 stave notation package from Dr T and an MPU401 compatible midi interace. Price £235.00 Contact: MCM on 01 724 4104.

DR. T'S AND COMMODORE SINGALONG

At the National Association of Music Merchants annual show in Anaheim California on January 20, 1990 Commodore and Dr. T's Music Software announced a joint bundle and promotion. The bundle includes specially priced Amiga 2000 HD computers to be packaged with Dr. T's KCS 3.0 sequencer, Copyist Apprentice scoring and transcription software, and a coupon for a synthesizer editor/librarian of the customer's choice. This is the first time that a promotion of this type has been done aimed at serious musicians.

Al Hospers, CEO of Dr. T's says, "Sales of Amiga software has been growing at an unprescedented rate. Serious musicians and professionals are catching on to the fact that the Amiga does things that on other computer does. With the introduction of our Multi Program Environment for the Amiga users can do things with multitasking and dynamic data exchange that are not possible on Mac's or Atari's. And release of the Phantom SMPTE box gives the pro access to the same synchronization capabilities available on the Mac and ST".

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For the Under-6s
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Each package contains; Detailed Instruction booklet giving educational help to parents and teachers, together with a guide to using the programs and a colourful button badge.

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- COLOUR TRAIN: PLAY AT SPOTTING COLOURS
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- BOUNCE: GET TO GRIPS WITH ANGLES
- PACKING: DISCOVER INTERLOCKING SHAPES
- CATERPILLAR: WORD-BUILDING CHALLENGE
- NUMBER JUMP: HAVE FUN PRACTISING TABLES

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- LOGIC DOORS: MAPPING MADE EASY
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WHAT TO DO W

C64 PARALLE

You can plug many things into the back of your 64. Andy Eskelson takes a brief look into parallel interfacing and comes up with suggestions on what you can do from printing to amateur TV

The C64 has two parallel interfaces, one is known as the "Cartridge Port" and the other is called the "User Port". There is a fundamental difference between the two. The Cartridge Port is connected directly to the memory and address lines of the 64's 6510 processor, as well as many of the timing signals that the sound and video chips use. This enables cartridges to enhance the operating system and expand the C64's memory.

The User Port is just that - a programmable interface that you, the user, can employ for your own purposes. Although very simple to look at, there is a lot of concealed power tucked away behind it.

The Heart of the Matter

The User Port is by far the more useful of the two as it does allow the user to do something with it! Inside the C64 are chips that form a major part of the C64's interface to the external world. These chips are the 6526 VIAs (Versatile Interface Adaptors). Nearly all of the I/O (Input/Output) that the C64 uses is derived from the VIAs, so you must take care when using them, or you might render your machine useless.

This is because the VIAs are very complex chips and they have a tremendous amount of electronics crammed into them. Each chip has two complete I/O ports on it and the user port's chip is also connected to the keyboard so if you damage this chip you will also disable the keyboard.

Parallel to Serial

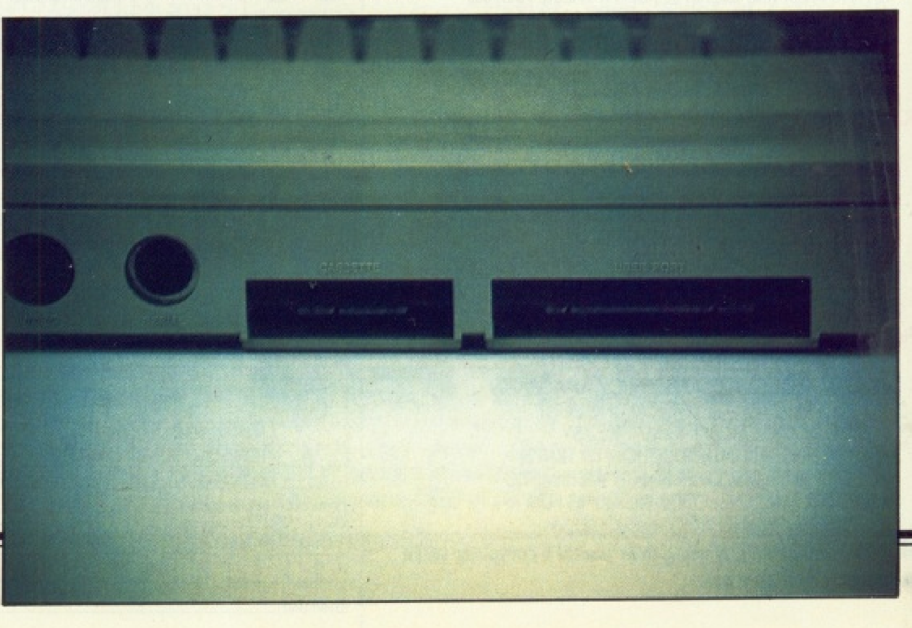
It is a bit of a paradox to say this, but the parallel user port is a serial port as well!! This is due to the design of the C64 in the early days. It was originally planned to fit a 6551 serial chip in the C64 but due to various delays, it was eventually decided not to use it. What happened was that the the software engineers provided a solution that gave most of the functions of the 6551. In essence, what they did was to implement the 6551 as a software package! This uses the VIA as the I/O device and provides multi-line 'handshaking' and speeds up to 1,200 bps (Bits Per Second). The only thing to note is that the VIA is a LOGIC LEVEL device, in other words, the input/output voltages are 0V and 5V, NOT the more usual + & - 12V, as in RS232. There are several adaptors available to allow true RS232 connections to be made to the user port.

What Now?

It is all very well having a user port, but what can you do with it?

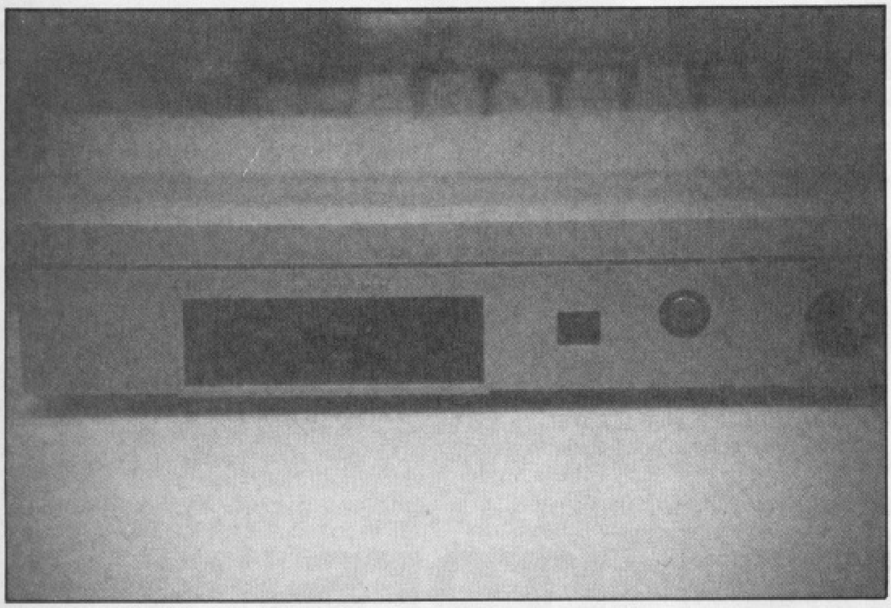
There is no hard and fast answer to that, except to say that you are limited only by your imagination. A FEW examples are:

Communications, connect a RS232 convertor to the user port, load a



WITH YOUR 64

EL INTERFACING



comms programn and get into the fascinating world of Bulletin Boards and online comms such as CIX, PRESTEL and COMPUNET.

Are you interested in robotics? If so, you can connect a variety of automania to the user port, such as robot arms, turtles etc.. There are interface boxes that will allow you to connect much more powerful devices without the risk of damage to the computer.

If you write your own software for cartridges then an EPROM programmer will be very useful to you and there are several types that can be connected to the user port and, when run with the associated software, many of the tasks you would usually perform on EPROMs can be easily done. These would include checking that the EPROM is clear before programming, calculating the checksum, programming the individual bytes, a range of bytes or the whole EPROM. Transferring the data to and from the EPROM is also catered for, making the "blowing" of EPROMs very quick and simple.

How about a printer...

The C64 normally uses a dedicated printer connected to the IEEE serial port. It IS possible to use a much more standard centronics interface printer with the C64 - all you need is the connecting lead and the software driver program. This program will sit in the background and wait for you to send something to the printer. Normally, the C64 will send data to be printed to the IEEE port, but the driver program will intercept it and redirect the data to the user port, which will be configured as a centronics port.

Most of the printer driver programs available will even make a good effort to convert the CBM graphic characters into a format compatable with the printer. The success of this does depend on the type of printer connected but as most printers are "Epson compatible", the dot matrix graphics of these printers are able to reproduce the characters. Printer drivers do vary quite a bit, depending on their cost - the more features, the higher the cost. Have a good look through the ads in CCI, there are some real bargains to be found.

Radio

If you are interested in Amateur Radio, there are several goodies that you can connect to the C64. By utilising the user port as a serial RS232 port, you can connect a decoder that wil enable you to access the AX25 Packet Radio network.

A very simple interface and some clever software enables you to receive RTTY (Radio Teletype), Morse Code and even Slow Scan (amateur) Television.

Amiga

There is a simple unit available that will allow you to use the C64 and its printer as a buffer for use with the Amiga, giving you a 60+K buffer into which you can dump the text output from the Amiga before it is output to the printer connected to the C64.

Speech

Make your micro talk... That's old hat now so how about something a little different! YOU talk to the computer! Hearsay 1000 is a product that lets you "train" the C64 to understand speech input.

Music

Plug in a Digital Sound Sampling interface and you can record sounds into the memory. Once recorded, you may then edit the sound and create a whole series of effects from it.

If you write your own compositions then MIDI will be familiar to you. This is an interface that is designed to be used with a whole range of musical instruments. It allows the remote control of a range of items from synthesisers to electronic drum kits. There is a software package to go with the MIDI interface, thus providing many functions such as sequencing, keyboard entry, score printout etc..

Programming Aids

A large range of cartridges are available to the user, providing functions such as advanced Basic, toolkits, backup devices, reset switches, modems, expansion memory and many, many more. Most are designed to plug into the cartridge port, some into the serial IEEE port and, of course, the user port.

If this has whetted your appetite to find out just what you can connect to your the parallel ports on your C64, here are a few telephone numbers of various suppliers who should be able to help.

A.E.

F.S.S.L.: 0386 553153
Meedmore Ltd.: 051-521 2202
Datel Electronics: 0782 744707
York Electronic Research: 0904 610722
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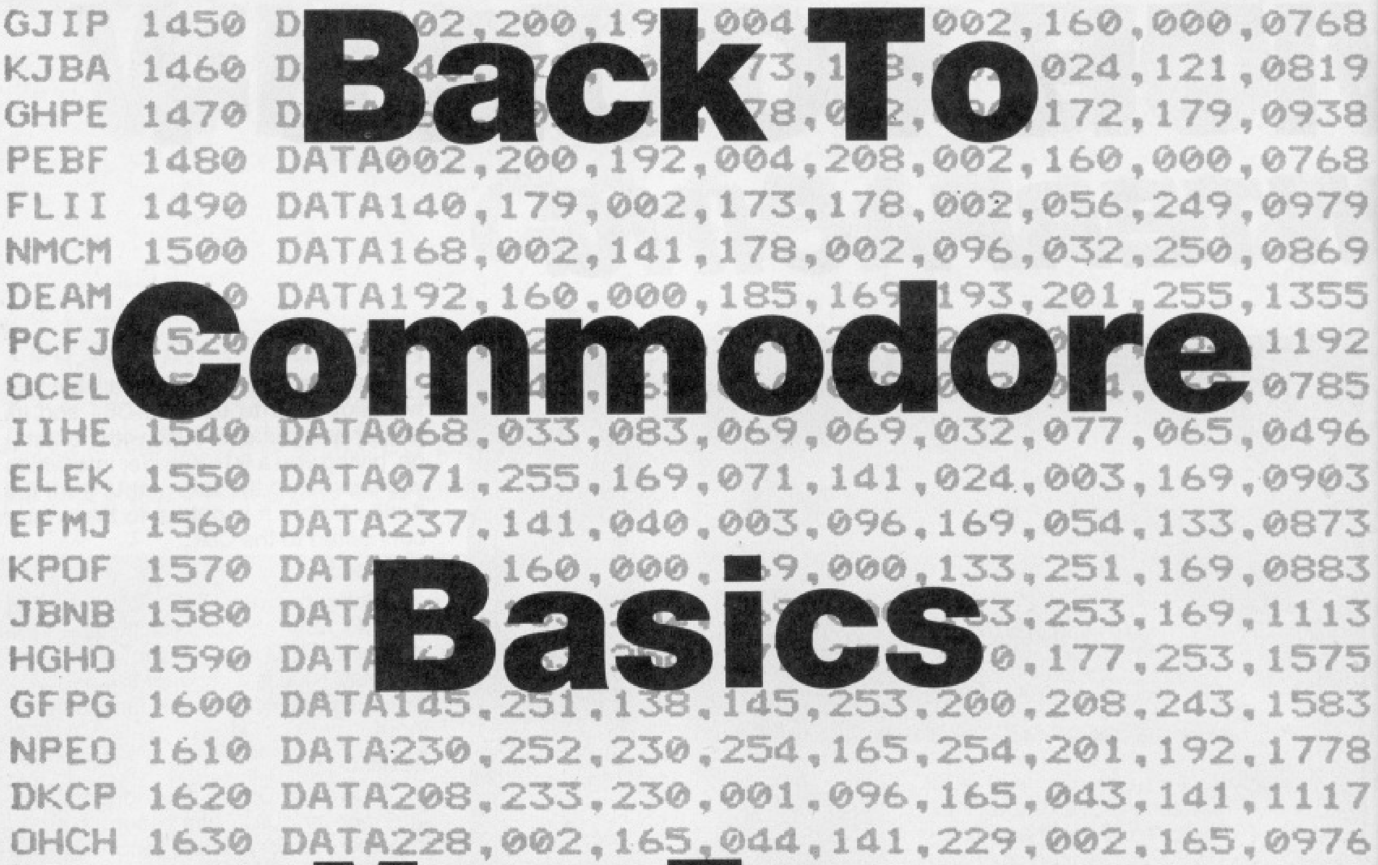
Back To Commodore Basics

More Errors, Need Input!



Last month we took a trip around all of the error messages that can be generated by the 64 when you're programming the beast without reference to any such peripheral as a disk drive or a printer. There are, as was noted last time, 13 error messages that are related exclusively to perhiperal devices, and so to complete our tour of these words of wisdom from the depths of the Commodore 64's memory banks we'll be looking in turn at all 13 of those messages. Some you'll probably never come across, others will be all too familiar, but just in case they ever occur it's as well to know what you're dealing with and how to (hopefully) go about putting matters to rights.

And the reference to Need Input in the title for this article? Apart from being the solution to a few errors, for the umpteenth time I've just watched the wonderful film Short Circuit. If you have a video recorder and you've never seen it, hire this film at once! People who have seen it will know what I mean.

Anyway, back to error messages. In my early programming days I was very grateful for these pearls from the computer, which would often set me on the right track at once. But some of them can be misleading, and I hope the wonderful Elaine Ryan (one-time secretary to the Approved Products Department within Commodore Business Machines) will forgive me for briefly quoting a story about what was probably her first acquaintance with an error message.

She was just starting to learn how to operate a word processor on the Commodore 8032 (business machine, for any newcomers), a word processor that used the very error messages that we'll be coming to in a moment. Her work had been, as ever, efficiently typed in, and now was the time to print it out. Not being used to this side of things she asked me what to do, and I told her the command sequence involved. I went back to my own desk, expecting to hear the printer start chattering away at any

> ***"Never attempt to connect a cartridge or anything to the user port with the computer turned on, otherwise you could cause permanent damage."***

moment...... Silence.

Innocently I went back to Elaine's desk and stood behind her, trying to gather what was wrong. As I did so, she repeated the command sequence and then, for once in her life, exploded in anger. The error message that had appeared was "Device Not Present Error", at which point Elaine jabbed her finger at the computer screen and shouted "It's there, you fool, the printer's next to you!"

If you didn't smile at that, then this is the article for you!

> ***"You might (perish the thought) have got a corrupted directory and the computer is unable to read the disk. This is a major problem."***

Having introduced that particular error message, we'll start off by looking at a Device Not Present error. In its simplest form it means that whatever you are trying to access, be it a disk drive, tape deck, or printer, is not switched on and the computer thinks that there's nothing there: hence the wording used in the error message. It is also possible that the cable connecting computer to device is faulty, even though the device itself is switched on, so the only cure there would be to acquire another cable from somewhere.

If you've forgotten to switch on whatever device it is, then you could have problems. If you've connected it but not turned it on, then you'll normally get away with just switching the thing on. On the other hand, if you haven't connected it at all then the only safe thing to do is turn the computer off, connect the device, and turn everything back on again. Never attempt to connect a cartridge or anything to the user port with the computer turned on, otherwise you could cause permanent damage.

Cassette decks and disk drives CAN be connected up with the power on, although it is most certainly NOT recommended, because once again you could have a permanent disaster requiring the repair services. If you can turn the computer off before connecting them, do so, but if you've got a program stored in memory that you were trying to save when you discovered that all was not as it should be, then you might risk trying to get away with it. Computer turned on, device turned off, and go for it!

You might be lucky, but don't blame me if you short circuit a few things and have to reach for the yellow pages. It's your own fault!

A closely related error message is the Illegal Device Number one which, naturally enough, has something to do with device numbers. This particular error message can only be generated by using device numbers zero and three, which relate to the screen and the keyboard respectively. Reasonably enough you cannot save or load programs to and from a keyboard, and this is the error message that you'll get if you try to do just that.

You might also think that you cannot save or load programs to and from a printer, but you can try! You can also try using a device number in the range 64 to 127 and 192 to 255, because the Commodore 64 will do its best to carry out the command whether anything is connected or not. Using numbers bigger than 255 will just give you an illegal quantity error, and anything in the range 128 to 191 will give you a device not present error if the device is indeed not connected.

Steer clear of device numbers zero and three, and you'll never see this error message. I can't really see any reason why anyone would want to use these device numbers anyway, except perhaps for opening a file to the keyboard and reading in some information for an Input command. Even there, you've got far easier ways of doing things.

Eight of the remaining ten error messages related to peripherals have got the word File in them, so we'll start with the rather rare message that reads Too Many Files.

I say rare, because there can't have been many programs written that required more than ten files to be open at the same time. That's the only way you'll ever get this message, when you try to open the eleventh file. If, for some bizarre reason, you've actually got this many files, then surely not all of them are absolutely necessary. The most I've ever used in one program was six, and that was on a computer with two disk drives present! Just get rid of the files that you don't really need, and keep the ones that are necessary.

By doing that, though, you could easily clear the way for any one of a host of other error messages to appear, all of which relate to an error on the part of the programmer when the program was written.

A File Open error means that you're trying to open the same file twice, and this of course is not allowed. Remember that the file number is the first number after the OPEN statement, so that OPEN 1,8,15 opens file number 1 to device number 8 using a secondary address of 15. OPEN 2,8,2 is then perfectly permissible, but OPEN 1,8,2 would generate the file open error.

You've got enough file numbers to choose from, so really you should never get this sort of message. If you do, you've been a little bit careless somewhere in your programming, so just check your listing very carefully to find out where the file has already been opened, and either change the file number of that one or change the file number of the new file.

> ***"You could resign yourself to your fate and vow never to let the cat sit on top of your disks again."***

The opposite of a File Open error is, sensibly enough, a File Not Open error. This sort of error is usually quite easy to deal with, and again involves filtering through your program to find the source of the mistake. Basically you've tried to do something with a file that hasn't yet seen an OPEN command, like saving some sequential data or loading some in. You'll either have to open the relevant file, or if you've already opened one and then used the wrong file number when it comes to using the file, change the file number.

The next message, a File Not Found error, usually occurs when you've managed to mis-spell the name of a file. Check the directory of the disk for the correct spelling and try again. Of course, you might have the wrong disk in the drive, in which case the obvious solution is to put the right one in. You might (perish the thought) have got a corrupted directory and the computer is unable to read the disk. This is a major problem. You could try recovering the disk using one of the many programs that are now available for the 64 that allow you to try this sort of thing. Alternatively you could resign yourself to your fate and vow never to let the cat sit on top of your disks again.

More usually, though, you'll find that you've just typed in the name incorrectly, and a quick look at the directory will enable you to load the program after all.

Two other closely related error messages are Not Input File and Not Output File. The first of these can occur when you are attempting to read some data from a file that has been designated as Write-Only, in which case you either change the syntax used in the OPEN

continued from page 23

statement, or decide that you are meant to be writing data to the file and are not supposed to be reading it in the first place. Once again you'll have to check your listing carefully and decide what precisely is meant to be going on.

A Not Output File error occurs when (go on, guess!) you are trying to write some data to a file that has been designated as Read-Only. As before, you'll either need to change the syntax used in the OPEN statement, or settle for the fact that you are actually meant to be reading data rather than writing it.

With both of these errors, when you discover what the problem is, always close the file before attempting to do things the right way around, otherwise horrendous errors could occur to the file itself and render it impervious to future use. In fact, for just about any file-related error, it's a very good idea to close all the files that were being used before you start again. If you can't remember which file numbers have been activated, use a FOR ... NEXT loop with i going from 1 to 255 and close everything. You won't get an error message by trying to close a file that wasn't open in the first place, the 64 will just blithely assume that a file was open and then close it.

Only two more file errors with the word File in them now, and the first of these that we'll look at is, I think, virtually impossible to generate by cassette-only users. It is the Missing File Name error, and the reason why it would be very difficult for cassette-only users to generate it is because it can only occur when you are using a device number of four or greater and when you also neglect to enter a file name.

> ***"You cannot read strings into numeric variables and this error is the result of that little bit of malpractice."***

One example of this would be LOAD "",8: this will give you the error. On tapes, of course, LOAD "" will just load the first program found on the tape, and so the error doesn't exist.

To solve the error, then, quite simply you must enter a filename!

A File Data error can be generated by anyone, be they tape only, disk only, or users of both. Like most the file errors the reason for its occurence lies in a faulty spot of programming somewhere along the way, because this error is brought to light when you try to read numeric data from a file but get string data instead. No error is generated if you try to do that the other way around, because numbers can always be stored as string variables anyway, but you cannot read strings into numeric variables and this error is the result of that little bit of malpractice.

To solve the problem, check your programming very carefully and make sure that you're trying to do the right thing to the right file. If you are, then just change the numeric variables into string ones and carry on from there. Of course, if they really are meant to be numbers coming in from the file and you're getting strings instead, then you'll have to look at that part of your program that files the stuff onto disk in the first place.

With that we arrive at our last two error messages, including one which probably occurs on most Commodore computers at some time or another. Yes, you guessed it, the dreaded Load Error, the mere sight of which is enough to make grown men weep and young children hurl the computer across the room. I've sworn at the 64 before now! In the dim and distant past, you wait fifteen minutes for a tape to load, and at the end of it all you end up with nothing other than a Load Error message. Most infuriating. Even worse, trying to restore a position in an adventure game that has been saved onto a faulty tape (one of the main causes of this error). It's taken you weeks to make this much progress, and then the tape refuses to load and you have to start again from scratch. The Hobbit got me in this way once, I remember it well.

Apart from having a faulty tape, or indeed disk, there are many other reasons why this error can occur. You probably wouldn't immediately look to your fridge as the source of the error, but it's possible. A spike down the mains can easily upset your computer, and a fridge turning itself on is enough to abort a loading operation. I should know. Friend Sandra Sharkey even had her fridge mentioned in a national computer magazine because of this very problem. The simplest solution is to unplug the fridge, but this isn't exactly practical, so either wait until it's started its cycle before loading/saving, or equip your computer with something to smooth the mains signal.

Another common reason for the error would be a badly aligned tape deck or disk drive, particularly if the unit is getting on a bit in age. You can buy commercial software that will help you to solve this problem, which is a darn sight easier to solve on tapes than it is on disks. Better to send your disk drive to someone who knows what they're doing, rather than risk frazzling yourself on the mains. Tape decks, since they connect to the 64, don't carry the same danger of a very nasty short circuit indeed.

Something else that can occur in older units is the variable speed at which the tape or disk is read. If, on a tape deck, the drive band is going, or the motor's at fault on your disk drive, then this will cause the data on the tape or disk to be read at an incorrect and varying speed. This, needless to say, is not at all to the 64's liking.

> ***"The dreaded Load Error, the mere sight of which is enough to make grown men weep and young children hurl the computer across the room."***

Prevention is better than cure here, so constantly check all peripherals and try to keep them running as smoothly as possible for the duration of their natural life. That way, you might prevent the final error occuring.

This is the Verify Error, which can occur for the same reasons as a Load Error, but there is another reason as well. With disk drives, you don't need to verify that a program has been saved correctly (although you can if you want), because the drive is an intelligent beast and does a spot of verifying itself. With tape decks, though, I would say it was essential. Thus, if you've happened to remove a program from memory before verifying it against the one on tape, you'll get a verify error.

If you've got quite a few programs stored on the same tape, using the Verify command is a good way of skipping past a few programs without disturbing the one currently in memory. For example, you might want to save your current program after the last one on the tape, but the tape has already been rewound. Just try verifying the program in memory against each one on tape. You'll get a few verify errors, but at least you'll get to the right spot on the tape for saving your program.

And that is the end of all the peripheral error messages. There are many more that can be generated by disk users, but they won't be printed up in the straightfoward way that these are. They can only be read by a short program that directly accesses the disk drive when the little light at the front starts flashing away. Maybe we'll come to that side of things on another day. Until the next time, don't forget to watch Short Circuit, and bye for now!

P.G.

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Creative EDUCATION FOR·THE·90'S

Anthony Mael finds Commodore at the BETT Show aiming accurately at a market that could give them a lifetime of loyalty

Steve Franklin Managing Director

"Creative Education for the 90's". "Give me a child to the age of seven and he is mine for life." No, that is not a quote from Peter Talbot who spearheads Commodore's drive into the educational market. It was a declaration, somewhat before Commodore's time, by St Ignatius de Loyola, the founder of the Jesuits. But, though it came from medieval Spain and led to the creation of a world network of Catholic schools, that comment applies equally today to education and its powerful personal, social even commercial influence; a point not lost om Commodore.

It is clear that the educational field is in the forefront of CBM's thinking about future markets, especially in the U.K. However, in the U.S. too it is mounting a substantial effort and by the end of this winter should have a sales team of 35 stalking the groves of academe.

With a modest but highly dedicated team of ten here, in the U.K. schools and colleges are already beginning to become more and more active as the Acorn-manufactured BBC computer series becomes obsolescent and requires replacement.

Commodore's increased dynamism in the educational sector has been marked by the build-up of its team taking a role in "Partnerships" and "Initiatives" (see box) to bring them into close collaboration with educational institutions and, most recently, with its strong presence at the British Education Training Technology Exhibition (BETT).

The BETT Show is a major gathering for educationalists from all over the country - and even from other nations especially Scandinavia and Germany to see and test the latest developments for use in the classroom, lecture hall or other learning environments.

At the Show, held over three days at the Barbican in London, there was everything from "electronic books" to CADCAM, from computerised health data to music composition systems - the last notably played by MCR who

BLAKE SCHOOL (Somerset)

often appear at the Commodore Show.

There were many devices intended for children with special needs, concept keyboards - one announced for the Amiga - and mark readers for teachers. Virgin were there with interactive video and CD ROM and there were even tapes for subliminal learning- though unfortunately not one for absorbing AmigaDOS in your sleep! And there was a flight trainer using the same 68000 chip as the Amiga.

In addition to CBM, there were all the major hardware manufacturers, with obviously the Acorn Archimedes struggling to win acceptance. No-one would deny this is a fine machine but its high cost - about two or three times that of the Amiga or a low-level MSDOS computer, and its restricted local market - it will hardly sell outside the U.K. - mean that it will not be the general replacement for the BBC - another machine which itself proved too narrow for full educational needs.

While the Amiga is steadily gaining ground, it seems that the British Government is attempting to push general educational purchasing toward the MSDOS standard because of its wide acceptance in the world outside of education. It is estimated that over the next two years some 70% of all educational computers bought will be MSDOS. Commodore, of course, is also covering this field with its increasingly powerful PC series.

In view of the advancing MSDOS situation, it was not surprising to find a substantial amount of the software at the Show appearing in that format but more is coming on the Amiga too.

Commodore, taking its involvement with the wider field of education seriously, launched a project to enable individual schools to pioneer technologically-based education and also two separate nationwide contests for schools to win CBM kit.

CBM have also supported Amiga-associated developments for the new National Curiculum, the use of the internationally-recognised educational computer language LOGO and even the famous old Valiant Turtle, which entertained and taught so many children when it was used with the 64.

One Commodore advantage is its already established reputation running back to PET and 64 days, two machines which before the arrival of the BBC were a major force in UK education. It has also, in the last two years, built a credible support system for its ambitions in education - a sector where decisions are taken slowly but have long-term effects.

Another factor is the rise of the Amiga outside the schools. Because it has become so much more popular with the general public, CBM is finding that schools are reporting that their students are already familiar with the computer before they lay their hands on it for educational purposes, very beneficial in reducing the learning curve. However, the Amiga's user-friendliness is one of the qualities frequently mentioned as a reason for its acquistion at all levels.

Above all, as CBM underlines in its newly-coined slogan, it can, especially with the Amiga, provide more than just techno-learning, it can offer "Creative Education for the 90's". No machine at the Show could match the Amiga for that, in its sheer creative value for schools, colleges, universities or in any other learning environment, even the home.

If he had been alive today, St Ignatius would certainly have welcomed all the power that educational technology gives. Commodore, for somewhat less spiritual reasons, no doubt share the same point of view.

A.M.

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COMPUNET WASTELAND

A door swings listlessly in the wind, blown backwards and forwards like the autumn leaves that dance down the dark, deserted street. Your footsteps echo from the blank facades of the empty buildings. In the window of a once rowdy bar a sign simply says 'Gone Away'. Scrawled across the door of previously busy tea rooms are the words 'No Local Access'.

> ***"Even at one or two in the morning a couple of users can usually be found wandering the system."***

You walk a little further and are just about to give up and go home when the distant sound of laughter reaches your ears. Hurrying now throught the empty highways and byways that once formed a thriving community you turn corner after corner until, almost by accident, you find an open door through which laughter and cheering pour out with the warm glow of a roaring fire.

You peek through the door, there is nobody you know there, but it's an amiable crowd and you soon make some new friends.

A little later you tire of the party and once more begin to wander the dark streets. This time your spirits are higher and you begin to notice that the great metropolis is not quite dead. There are signs here and there that people care, a bunch of flowers in an otherwise empty shop window, a few bright baubles to liven up an otherwise dull house front....

Thus we find Compunet after two months without local access via a nationwide network. Compunet is almost exclusively used by home computer enthusiasts, initially being set up for users of the Commodore 64. Lately access has been opened up to Amiga and Atari ST users but it remains an 'entertainment' facility.

This means that for Compunet to remain successful access must be relatively cheap. The Compunet host computer is based in London and until recently ISTEL's UK-wide network was used to allow most users to call a local telephone number to access the system. With the loss of access through ISTEL Compunet very quicjkly arranged a similar service through the Fadtrak system.

At the time of writing, Compunet are waiting for British Telecom to complete installation of new cabling that will allow them suitable bandwidth to make the most of the Fastrak system. It appears that the physical connections will be in place shortly. At first a small number of selected users will test out the new system but everyone should be back on-line with local access very soon thereafter.

A quick statistical naalysis of last week's uploads show that the situation is not as bad as it might first seem. Although many of the volunteer reviewers who regularly used to keep users up to date with news of each day's new uploads are no longer logging on, there is still a lot of new uploading taking place.

In the last week over three hundred pages of text, four new programs and a new action frame were uploaded to the system. Although this might account for perhaps one day's uploads in normal times it still means there is much of interest to be explored.

SHOWing the NETWHO page, which lists the users currently logged on, shows that there are typically five to ten users on the system during peak hours and even at one or two in the morning a couple of users can usually be found wandering the system.

With the access have come a consequential drop in the number of players active in the Federation II Multi-User Game which provides a healthy percentage of Compunet's turnover. Fed II had reached a stage where major organisations of Fedders were appearing in the 'dataspace' to act for their common good. One such organisation was the 'Mafia' which began to take on more and more of its Sicilian namesake's attributes until its recent collapse into anarchy.

> ***"The system does automatically update a list of all uploads made each day."***

According to 'The Wet Flannel!', an on-line journal of news from FED II (GOTO TWF), the Mafia engineered their own chaotic collapse to help maintain interest in the game during the dispute with ISTEL and subsequent access problems.

Elsewhere the Independent Compunet Club are in the process of arranging the 1990 Compunet Awards and many other areas are being updated, however at a lower than normal rate. These are just some of the innovative methods which Compunet users are inventing to maintain interest in the system.

The loss of the daily reviews of new uploads has meant that many important uploads are not being reported in the news areas of the database. However the system does automatically update a list of all uploads made each day.

Compunet's staff and management seem to spend little time maintaining the systems at present. At the time of writing there have been no progress reports or news uploaded by Copmpunet for five days – a far cry from the past when users could expect at least one round up of news a day from the system's editor.

J.L.

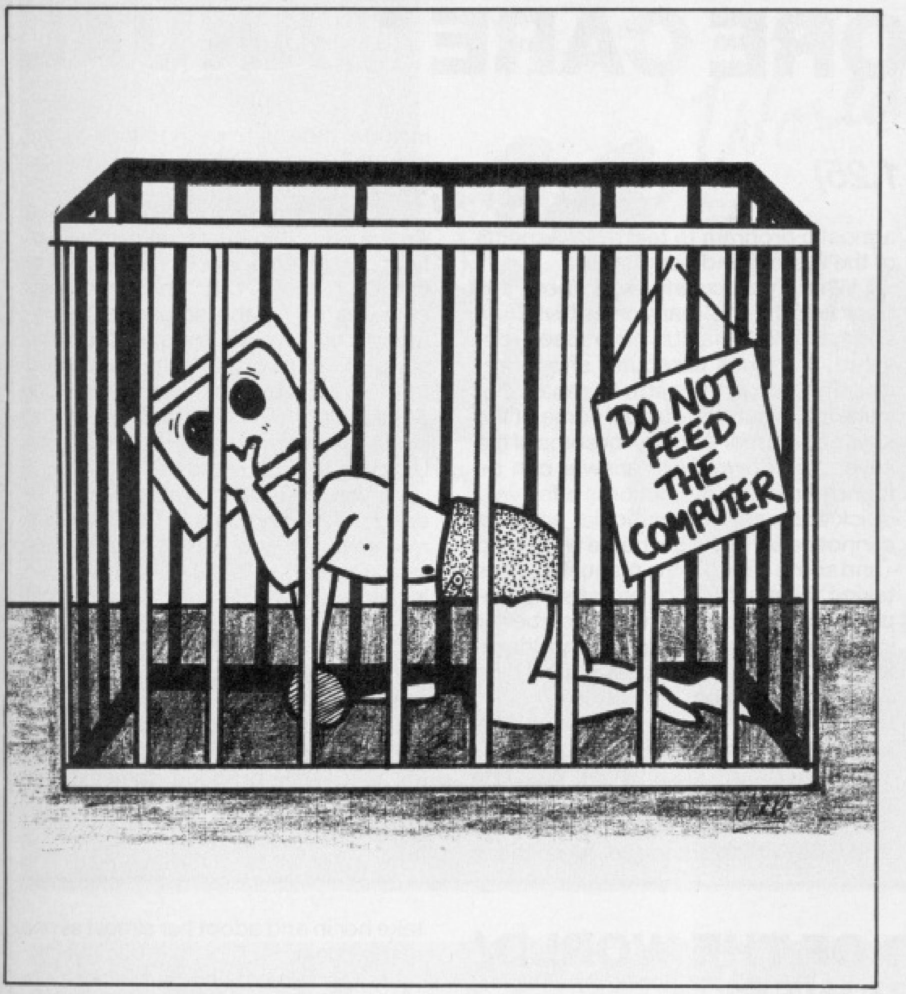
PLEASE DO NOT FEED THE COMPUTER!

Are your computers safe from dust, dirt, grime, coffee and inquisitive fingers? Mark Smiddy points out the problems when the graphite hits the fan and offers some advice on keeping your equipment wholesome.

commodore 64

A computer is like a child. This is an analogy which has been usedfor years to describe programming as an art form requiring skill,patience and forward thinking. A computer thinks very much like a small child, it follows your instructions to the letter and cannot make any rational decisions for itself - hardly a perfect comparison, I admit. Moreover, computers are like children when it comes to dust and dirt - they attract it like magnets and object strongly to having it washed off!

Take a case in point. A chap I heard of some years ago spilt coffee on a 5.25" disk containing the only copy he had of some very important data. Dutifully, he allowed the diskette to dry out, removed the plastic sleeve and washed the whole sticky mess in a bowl of soapy water. After the disk had dried out he reassembled the package and popped it back into the drive.


DO NOT FEED THE COMPUTER

CARE GUIDE

1) ALWAYS treat the machine with the care and respect it deserves.
2) ALWAYS replace disks in their protective sleeves after use.
3) ALWAYS gently depress keys; they will last longer.
4) ALWAYS close down properly. Parking hard disk heads is a useful precaution; the command can easily be added to a batch/script file.
5) ALWAYS switch off for at least 30 seconds before switching on again - this helps prevent failure of sensitive custom chips.
6) NEVER allow food or drink of any kind near a computer.
7) NEVER use abrasive materials to clean the VDU's screen or disk drive heads - this includes some proprietary brands!
8) NEVER use solvents to clean ANY part of a computer.
9) NEVER move a hard disk without parking the heads first.
10) NEVER leave disks where they can be exposed to heat or magnetism.
11) NEVER poke anything inside the computer's case - voltages inside can be lethal.
12) NEVER attempt repairs yourself - you could cause more damage.

Surprisingly the disk still worked despite this considerable maltreatment. While I would strongly advise against anyone attempting to ape his solution, this story does go someway to support the claims of manufacturers that disks are an increasingly secure magnetic media. Nevertheless, as is true with most things, prevention is always better than cure.

It would seem too, even the professionals are not exempt from Murphy's first law of computing. This was proven by one erstwhileEditorial Assistant of Atari ST User, who was once discovered in his kitchen washing another coffee spillage from the inside of the machine's keyboard! This is of course a secret and I will not tell you about that.

From these examples, we can derive the first law of computing: computers do not drink. Being inorganic creatures, it is also reasonable to conclude from this basic premise, they do not eateither. Go ahead, laugh; you would be surprised at the amount ofhavoc fragments of a digestive biscuit can wreak inside the delicate workings of a computer keyboard. All this gives rise to the computer version of the zoological sign: PLEASE DO NOT FEED THE COMPUTER!

While food and drink are the most obvious threats to the workings of a computer, there are a lot more, less obvious ones. It is perfectly possible to completely wreck an Amiga or PC with nothing more sinister than a pencil. How? If a pencil is jammed between a couple of keys and the lead snaps off - not beyond the imagination of a bored child - it is very likely the affected keys will jam, although this is relatively easy to repair. Using the same innocent pencil against the fan in, say an Amiga 2000 or A590 (hard disk) will effectively spray conductive graphite all over some very delicate circuitry. Giving rise to a less common computer expression, "Now the graphite's hit the fan!"

Now a word about the favourite subject of many, smoking. Even ifyou do smoke, do you know what smoke is? The actual analysis is quite complex, however a large percentage of cigarette smoke is minute dust particles and evaporated tar; airborne ash and steam, if you like. Each particle (or droplet) is just a few millionths of a millimetre wide, but combined together they form an insidious sticky resin which can build up wherever it settles. This includes the surface of the hard disks; and since the head of a hard disk floats just a few microns above the surface of the platter, it is easy to see how the deposit can soon start to wreak havoc, not to mention its effect on the VDU screen.

In today's schools and home environment, it is impossible to expect the standards of cleanliness demanded by computers of ages past. Nor is it necessary, for today's micros are hardy little things and designed not to need the antiseptic environment of earlier electronic machines. Nevertheless, whilst modern small computers are considerably more robust than their larger predecessors, they must still be treated with a certain degree of care and respect. In this article, I have given just a few examples of how computers can be abused, often without the user even being aware of the maladies his or her actions (or inactions) could bring about. If you treat you computer with respect and follow the guidelines,it should, without too much effort give many years of trouble free service. Remember: computers never make mistakes, humans do.

M.S.

COMMODORE CARE MANUAL

TAB Books

(Morrison and Stover £11.25)

Although by today's standards, Commodore's C64 is starting to look "long-in-the-tooth" it remains a relative marvel of modern technology. As is typical with complex and hi-tech hardware, even a machine as reliable as the C64 can go wrong from time to time. Moreover, these faults are often easily remedied if you know where to look - which is where the Commodore Care Manual comes in. Herein is assembled a wealth of useful information written in plain English.

I cannot emphasize enough how clearly written this text is in assuming the reader has little or no knowledge of the complex subject of digital electronics. Also, where necessary, the text is backed up by diagrams or photographs. Some knowledge of BASIC programming is useful though not absolutely necessary to get the best from this book. This is because the book contains a complete (and well-documented) BASIC listing of a diagnostic program to test most aspects of the system and peripherals.

What I particularly liked about this book was the way many of the trivial and annoying little faults have been covered; the ones computer shops frequently charge the earth to repair. For instance, what do you do if some of the keys start to feel "spongy" or some of the keys stick down? The answer can be found here and the solution is often very quick and easy. If a particular problem cannot be solved in the home workshop - and some cannot - the manual advises taking the machine for professional repair. Nevertheless, you will have a better idea what has gone wrong and therefore, much less likely to be duped by a devious repairman.

To sum up, topics covered include: keyboard; monitors - all types; printer - dot-matrix and daisy wheel; cassette drives; disks and disk drives - 1541 and 1571; serial interfacing - VIC modem and CBM RS232 interface. All sections include thorough descriptions of the how the parts work and what can go wrong.

A couple of minor cavils, this is an American publication so all of the specifications given apply to US versions of the C64 and C128. The only major changes being the screen raster frequency of 50Hz in Europe and the mains supply voltage of 240 volts as opposed to 110/120 in America. Among the minor points are the cost of tools and parts; since these are given in US dollars the US price will be different.

If you are at all interested in discovering the ins and outs of C64 hardware maintenance and repair, there is only one overall way to describe this book - invaluable. Even if you just want to gain C64 work, this book is a winner. In UK, most DIY car repair enthusiasts would not be without the excellent range produced by Haynes, this book is their equal for the C64 computer. I can only hope therefore, the writers responsible for this work produce something of equally high calibre for the Amiga. Highly recommended.

M.S.

WALK TO THE END OF THE WORLD/ MOTHERLINES

by SUZY McKEE CHARNAS

(The Women's Press £6.95)

Two for the price of one in this book. 'Walk To The End Of The World' and 'Motherlines' were originally published as separate novels, now The Women's Press have combined the two to make a cohesive whole and to bring the talents of 1980 Nebula Award winner, Suzy McKee Charnas, to a wider audience.

'Walk To The End Of The World' concerns a male supremacist society after what is called the 'Wasting' has occurred.

Men have come to believe that the Wasting was brought about by women who dominated many of the opposite sex to such an extent that eventually the dominated 'unmen', and those who opposed them, nuked each other in a final conflagration.

Now women, or 'fems' as they are called, are the slaves of man. Fit only to breed 'cubs', do the menial work, and become the victims of the occasional witch-burnings that take place when their masters need a little light relief from their depressing world.

Food is in short supply. The basic diet is lammmin, seaweed that provides a yearly crop, but it is gradually decreasing. Most of the world is a scrub-desert. Technology is almost non-existent. When metal is required it is mined from pre-Wasting machine graveyards, bricks are made from earth.

Alldera, because she just happened to be in the wrong place at the wrong time, has had to submit to both d Layo and Bek but, with the latter's help, escapes during a war masterminded by Bek's father, in which they become involved.

Bek confronts his father, with tragic results.

The mood of 'Walk' is dark and drear for Charnas paints a world ruled by men that has almost nothing good about it or them.

'Motherlines', is Alldera's story and I must say I preferred it to 'Walk'. Alldera, now pregnant, finds her way out of Holdfast, across the desert and into an Amazonian land of plains and valleys where men are non-existent. Starving and lost she is rescued by a horse-riding tribe of women, called the Mares, who take her in and adopt her almost as one of their own.

I say 'almost' because these are women who are self-sufficient in every way, even to being able to perpetuate their race by mating with their horses! (They are not called the Mares for nothing).

Alldera, having been impregnated by a man, or men, can never really be a member of the clan and always feels an outsider.

She knows that there is another tribe made up of women who, like her, have escaped from Holdfast and, leaving her daughter with the Mares, she joins them only to find that they have constructed a society based on the one from which they have fled.

Where 'Walk To The End Of The World' concerns Eykar Bek's search for his father, 'Motherlines' is about Alldera's search for herself. Both reach their goals through hardship, humiliation and soul-searching.

I suspect Suzy McKee Charnas is what is known as a 'feminist' writer. She certainly gives that impression for the majority of her male characters are downright despicable and selfish whereas, on the whole, her women are caring and community-minded. That notwithstanding, she has a talent that overrides her prejudices and manages to create two entirely different worlds peopled with gripping and believable characters.

D.M.

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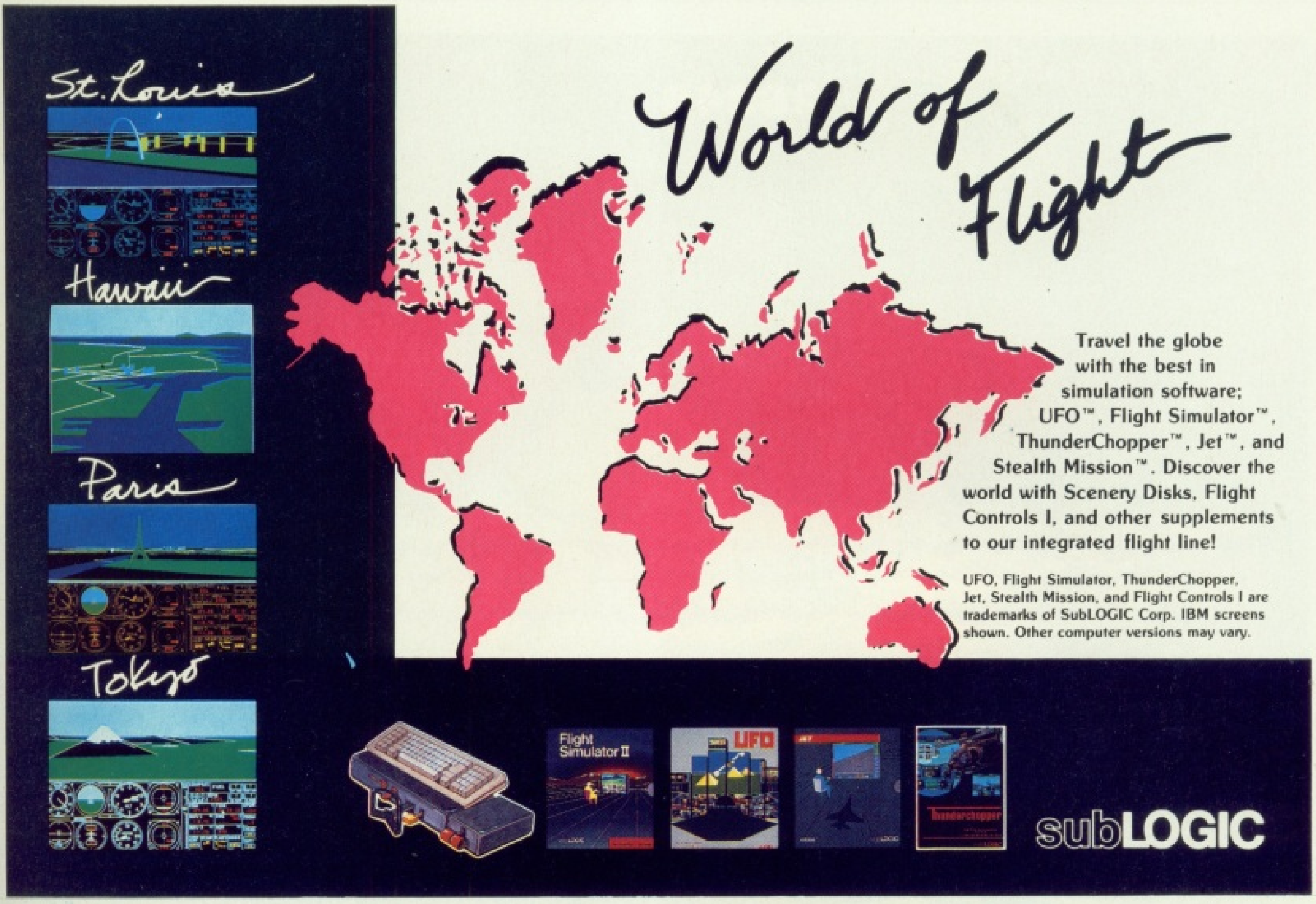

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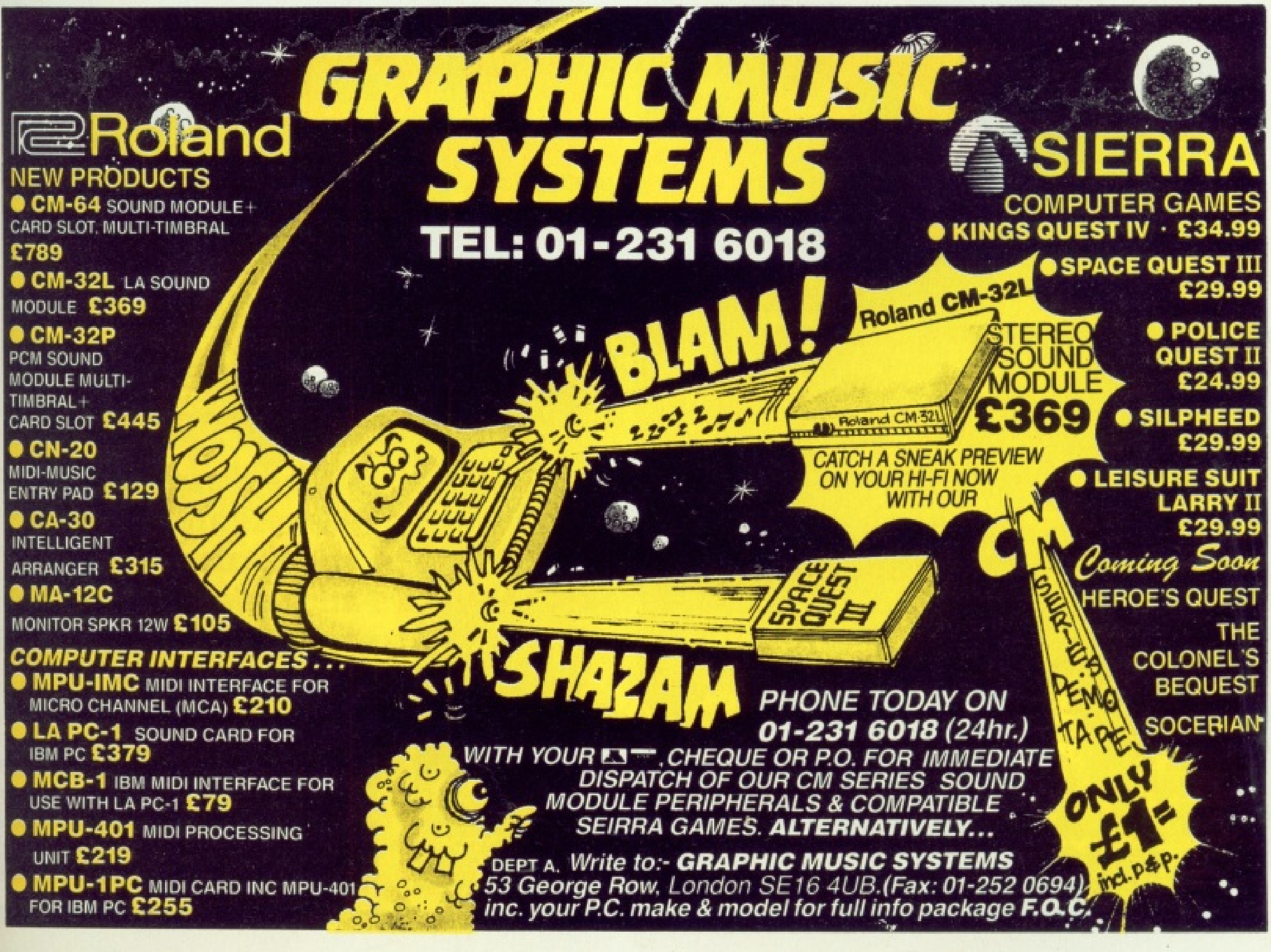

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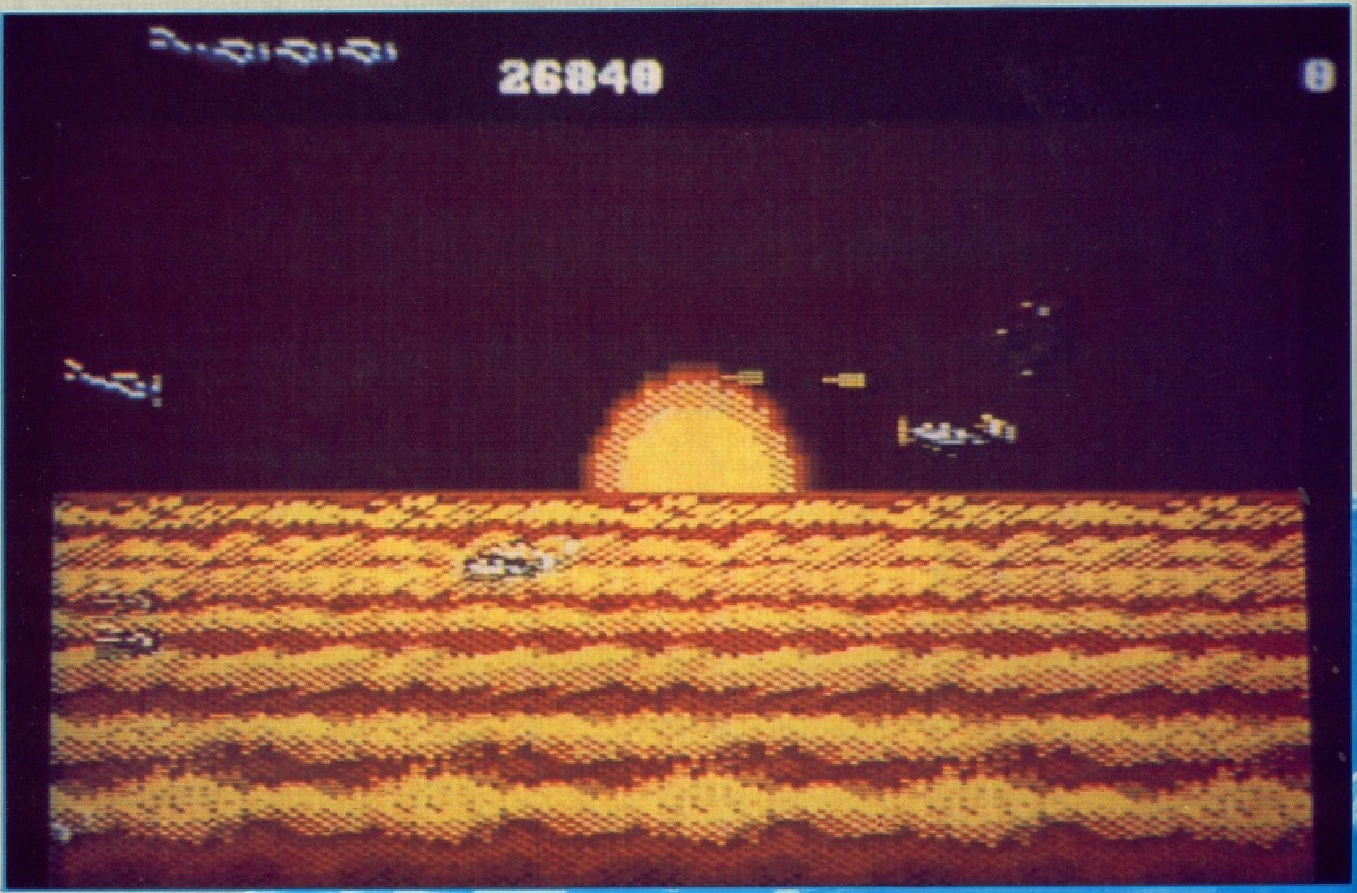


P-47

Firebird

> *"The themes of most levels are the usual mountainous country and seascapes, but the second level's sunset is a nice idea."*

Not a government form, but a World War II fighter plane, the P-47 fills the central role of Firebird's latest. Converted from the yawnsome Jaleco arcade machine, P-47 promises eight frenzied levels of enemy activity. What you get is something rather different.

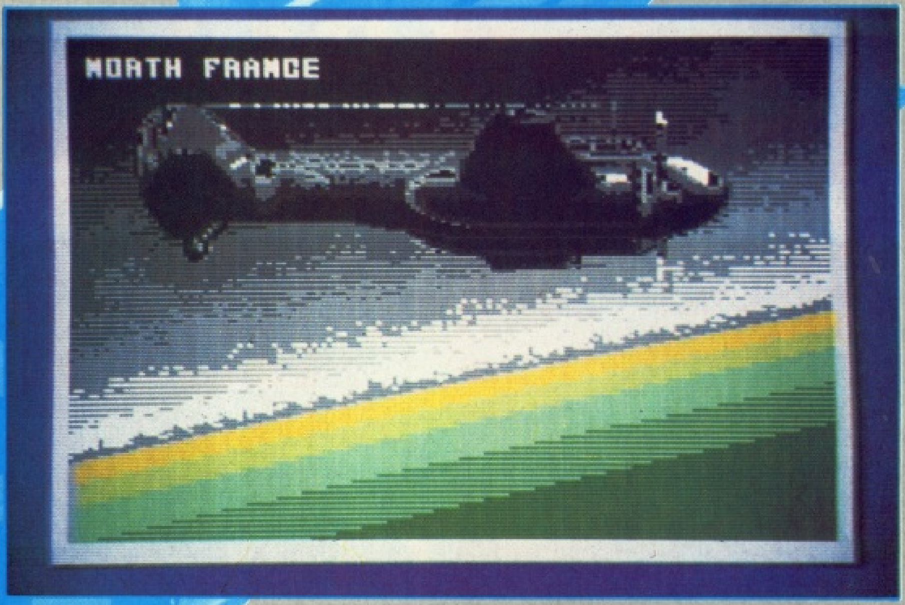
There's no attempt made to back up your mission of death with any storyline, which chalks up an early point in its favour. That point is is immediately cancelled out as the options screen loads in the default settings of keyboard control for both players. What is the reasoning behind that? How many C64-owning shoot 'em up fans do you know who don't have a joystick? Unnecessary hassles have no place in a shoot 'em up.

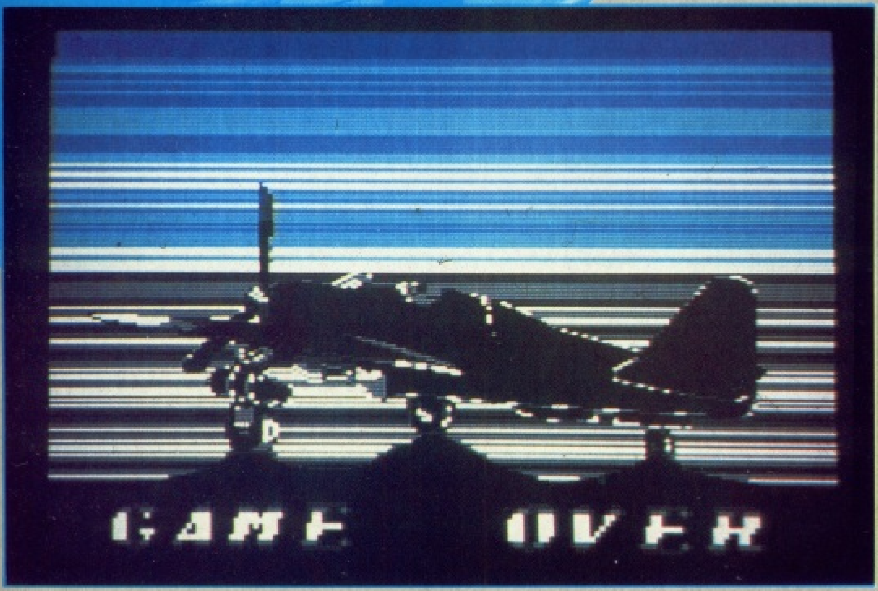
"Smooth scrolling is an esntial requirement for a decent zapper, and the lack of it lowers the tone of P-47 considerably."

Once into the game, events take a familiar route. The screen scrolls at a constant pace, while you fight off an assualt from air and ground-based enemies. The fleets of hostile fighters pootle around in loose formation, occasionally releasing slow moving missiles. Down on the ground, tanks and SAM launchers let rip with less easily dodged shells. The end of each level brings on a big tank, plane or battleship. The themes of most levels are the usual mountainous country and seascapes, but the second level's sunset is a nice idea.

There are two main problems when it comes to graphics, and these spill over into the gameplay. The first is the colour scheme. All the sprites and most of the backgrounds are drawn in washed out shades of grey, green and blue. That alone makes it extremely difficult to see what's what, but this is made even worse by the jerky scrolling. Smooth scrolling is an essential requirement for a decent zapper, and the lack of it lowers the tone of P-47 considerably.

Weak graphics, unoriginal design, lazy sound and drab gameplay don't amount to the most inviting shoot 'em up. If you like the sound of the scenario, you'd be far better off getting hold of Virgin's Silkworm, which is just as unoriginal, but outclasses it in every other aspect. *T.H.*





Graphics: 44%
Sound: 25%
Playability: 51%
Overall: 50%
Price: £9.99 (cass)
£14.99 (disk)

Amiga

The jerky scrolling comes as less of a surprise in what looks to be a straight ST-Amiga port. The brighter colours mean it's easier to see what's going on. However, the graphics could hardly be described as spectacular, and the sound follows suit. As it has very little more to offer than the 64 version, which at best would make a pleasant budget release, the Amiga game is vastly overpriced.

Graphics: 54%
Sound: 35%
Playability: 52%
Overall: 36%
Price: £24.99

WINDWALKER

COMPETITION

Last month we reviewed an excellent new fantasy/role-playing/martial art type program entitled "Windwalker", from Origin.

Mindscape, the UK distributors of Windwalker, have sent us TWENTY copies of the game to give to CCI readers.

You could win one absolutely FREE (well it will cost you a stamp!)

All you have to do is answer the following questions (simple isn't it?)

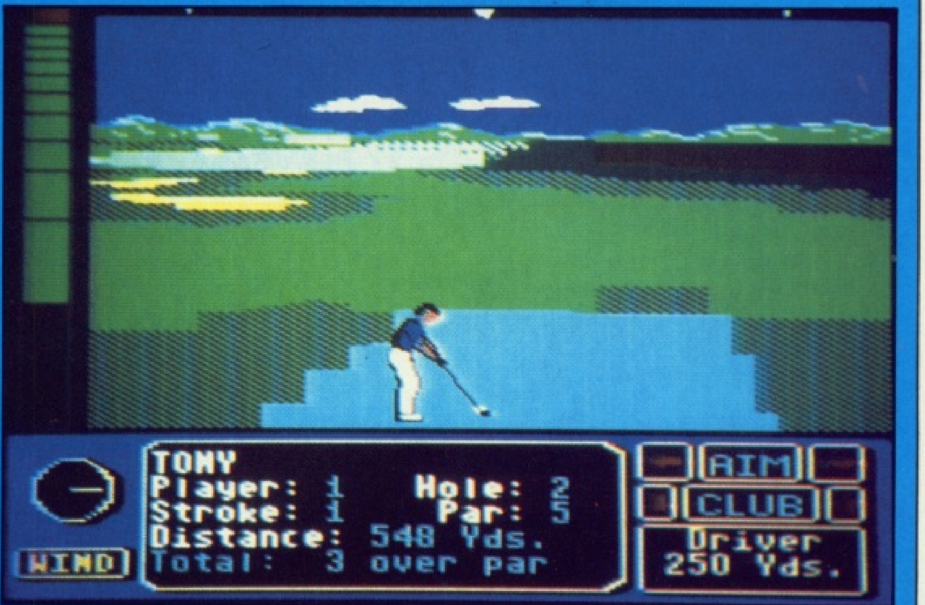
1. Who is the Windwalker?
2. What are your character's four main attributes?
3. What work do you at the start of the game?
4. What is the evil Warlord's name?
5. Who wrote Windwalker?

Answers, on a postcard please, by 15th June, to:

Windwalker Comp.,
CCI, Finsbury Business Centre,
40 Bowling Green Lane,
London, EC1R 0NE

Jack Nicklaus' Greatest 18 Holes

Accolade



Anyone setting out to write a golf game knows what they have to beat. A worth while attempt has to either go one better than Leaderboard, or take a completely different approach to the game. Accolade's simulation of "a good walk spoiled" takes the first option, but whether it succeeds is another matter.

All the usual options are available before you begin. From one to four people can play, each at one of two skill levels. You can also choose to play against a computer controlled opponent. An overhead view of the following hole is displayed before you tee-off. When you've seen enough, you can get on with the game.

As with Leaderboard, the 3D view builds up while you wait. Unlike Leaderboard, the greens, fairways and bunkers are all very blocky, which leads to a big loss of realism. From the panel at the bottom of the screen, you can juddge the distance, wind speed and direction, and select your club. Playing a shot is much the same as the Access game. Pressing fire once starts the power bar rising. Pressing it a second time selects the power, and a third press decides the amount of hook or slice on the shot. Differing ground conditions affect the shot, so you'll not have much luck escaping a bunker with a putter.

There are three courses included in the game, each loaded separately. The look and layout of each course is noticably different, so variety isn't a problem. The game's main downfall is its unrealistic feel. Leaderboard creates a believable world, with clearly defined and instantly recognisable lakes, trees and bunkers. Jack Nicklaus' interpretation all too often presents you with a screen full of blocks of various green, grey and yellow shades.

> *"Differing ground conditions affect the shot, so you'll not have much luck escaping a bunker with a putter."*

When a game's graphics look as if the computer has crashed, there's something wrong. Compared to the sound, the graphics are excellent. All you get in the entire game are two almost identical effects. There's no music, no cheers as you sink a birdie, or anything else. What makes all this even worse, is that the routine that drives the pathetically unrealistic sound of the ball bouncing along the ground, often forgets to turn the sound off, so you get irritating and unavoidable white noise between your shots.

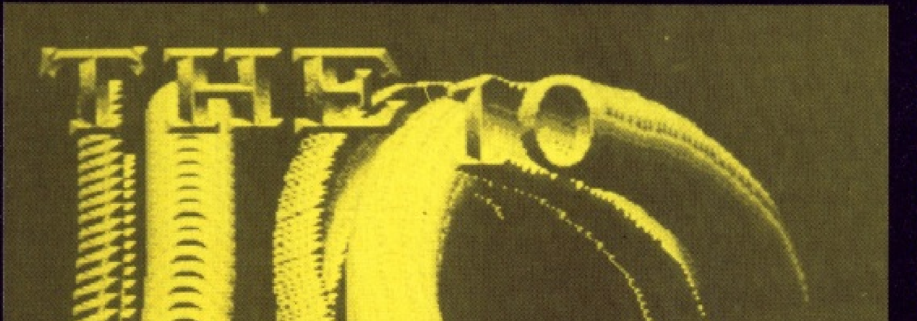
Had Jack Nicklaus' taken a more alternative view of computer golf, poor results wouldn't have been as serious. However, as it makes no attempt to break away from the formula, there's no reason why I could recommend it over Leaderboard. It sets out to achieve the same goals, but fails. Leaderboard-owning golf fans won't find anything new here. I'd advise anyone else to grab a copy of the classic in either its budget or compliation form.

T.H.

Graphics: 54%
Sound: 5%
Playability: 48%
Overall: 50%
Price: £9.99 (cass)
£14.99 (disk)

AWESOME A

Some of the great gaming highpoints of the 64's recent past may not have come your way. To remind you what you may have missed or might want still to try, Tony Horgan takes a brief look back at ten of the very best games on the C64



Retrograde (Thalamus)

Retrograde proves that a decent shoot 'em up doesn't have to originate in the arcades. Although it has got as much alien zapping as anyone could want, it's also got a lot more besides. You've decided to blow up seven planets. The detonation procedure comes in three parts. The first involves flying over the surface of the current planet, shooting aliens and picking up the crystals they leave behind. Trade in your crystals for extra weapons and a massive bomb, travel to the core and prime it, and at the flick of a switch you can destroy a planet. Before you get to the next planet there's a big mothership to be zapped. Sound and graphics are both superb. The gameplay matches this standard, thanks to the excellent design and programming. There's plenty of variety, so it'll keep you going long after most shoot 'em ups have fizzled out.

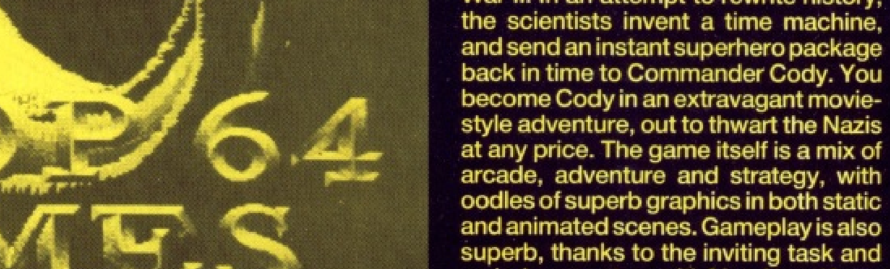
Power Drift (Activision)

Another of those coin-op conversions that was said to be impossible was Power Drift. C64 3D veteran Chris Butler did a great job, proving the cynics wrong. The game is a race around five sets of contorted roller coaster tracks. Enormous fast-moving graphics are the trademark of the coin-op, and these have come across amazingly well. The roadside scenery is smooth at high speeds, and the racers are even smoother! All the tracks are included, and it all loads up in one go. Everything amounts to the best 3D racer to have appeared in years.

Rocket Ranger (Cinemaware)

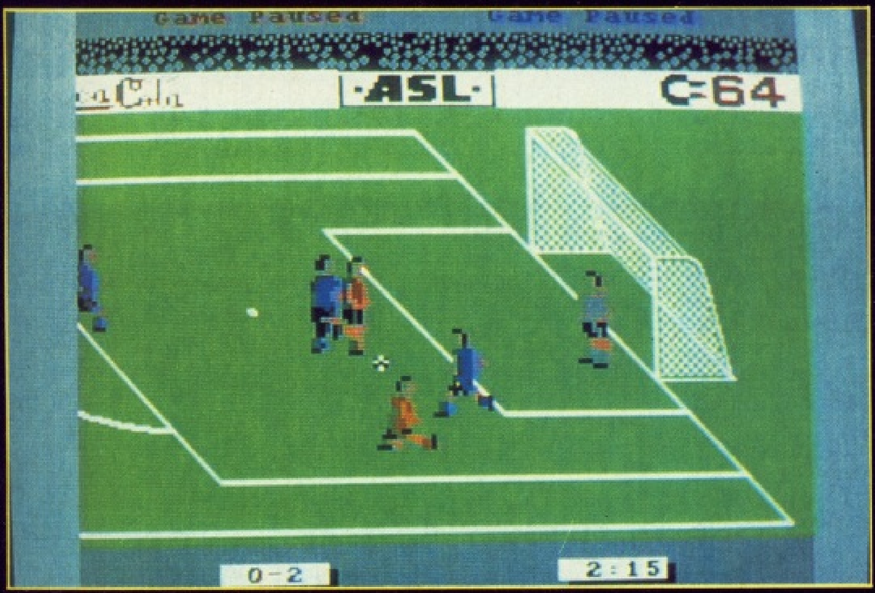
The Nazis have discovered a new mineral on the moon, which they plan to make into devastating bombs, dropping them on anyone in their way. A bunch of scientists from the 21st century are now under Nazi rule, as is everyone else after the Germans won World War II. In an attempt to rewrite history, the scientists invent a time machine, and send an instant superhero package back in time to Commander Cody. You become Cody in an extravagant movie-style adventure, out to thwart the Nazis at any price. The game itself is a mix of arcade, adventure and strategy, with oodles of superb graphics in both static and animated scenes. Gameplay is also superb, thanks to the inviting task and varied encounters with friends and foes. Unfortunately as it's so big, it's for disk users only.

Retrograde (Thalamus)



ACHIEVEMENTS!

Emlyn Hughes International Soccer



Stunt Car Racer (Microprose)

With 16-bit roots, 64 Stunt Car Racer seemed destined to be a disappointment. However, the strange mix of solid and transparent vector graphics resulted in a surprisingly accurate conversion. The game has you reaching for the championship of an insanely dangerous car racing competition. The tracks start out with tame, undulating humps and ramps. These build up to the horrifying heights of the Roller Coaster and Draw Bridge tracks, where you're lucky just to complete a couple of laps in one piece! Speed is kept up by a low visibility level, so that you can never quite see all you would in reality. Nevertheless, it gets your lunch moving as you fly over a fifty foot high ramp and overshoot the oncoming bend, and there are few games that can live up to a claim like that.

Myth (System 3)

A confused storyline somehow puts you in the middle of a string of mythological battlegrounds. It all starts off in a dark cavern, where skeletons rise from the earth to slice you up with their cutlasses. You're no wimp, and have to defend yourself with your hands and feet, until you can pick up a weapon or two. Each level of platform beat 'em up action is set in a different time and a different part of the world. Viking legend and Ancient Egypt follow on in a similar vien, with brainwork taking as high a priority as joystick handling. Bob Stevenson's graphics are superbly detailed, with intricate shading and smooth animation on the central character. It's not an easy game, but if you want a classy arcade adventure, you can't go wrong with Myth.

Microprose Soccer (Microprose)

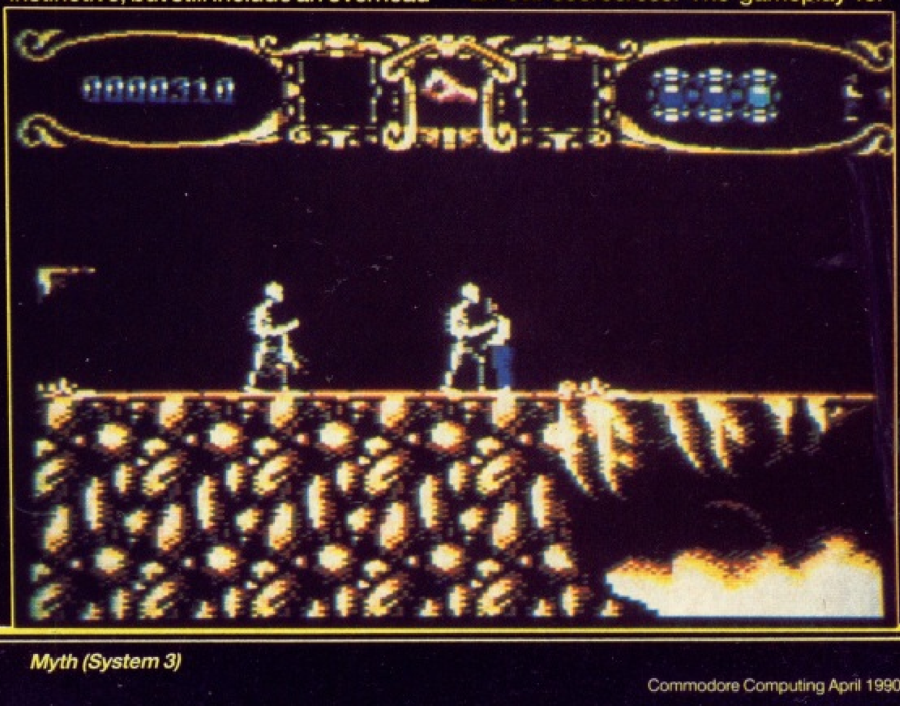
The closest the 64 has ever got to a conversion of the excellent coin-op World Cup comes under the name of Microprose Soccer. Written by Sensible Software of Wizball fame, it's a slick game from the outset. The view is from above, with the multi-directionally scrolling pitch covering a few screens. The controls are simple enough to be instinctive, but still include an overhead kick, a chip, long and short balls, throw ins, diving goalies, corners, sliding tackles and banana shots. Sensi-soft's sense of humour has come through in the game, during which you can see stumpy players slipping around in wet weather, banana shots looping well over 180 degrees, and jubilant strikers leaping for joy as another goal registers on the scoreboard. Nothing short of brilliant.

Denaris (US Gold)

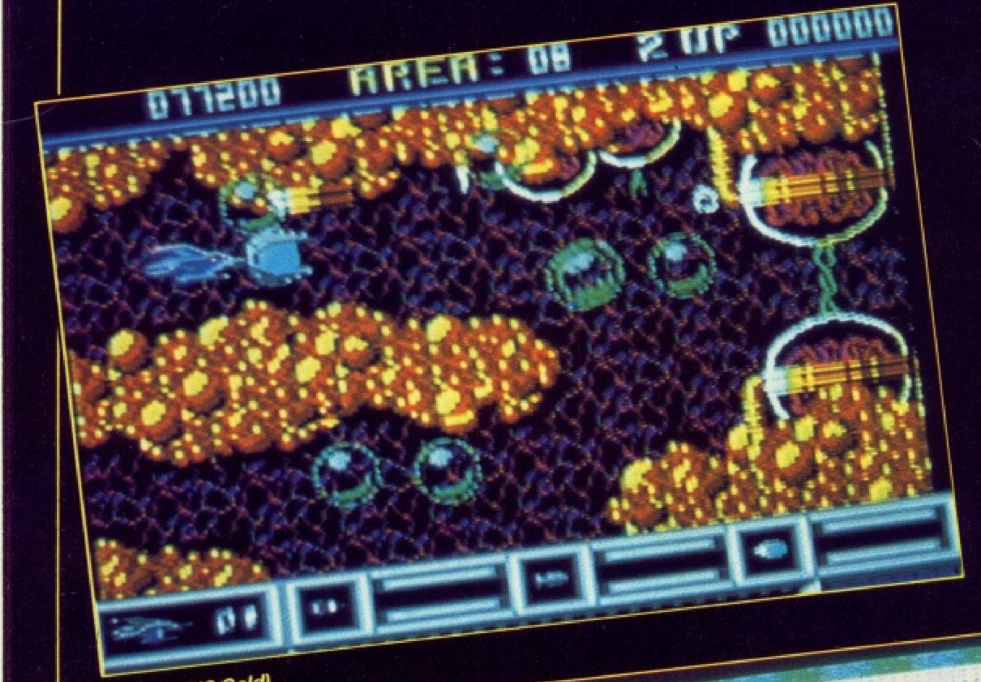
Initially planned for release at the end of '88, Denaris was the subject of a disagreement between Activision and US Gold. The game blatantly ripped off just about every horizontally scrolling shoot 'em up that ever was, and was particularly close to Activision's forthcoming R-Type conversions. In the end, the programmers of Denaris (which was then titled Katakis) were hired to programmed the Commodore versions of R-Type, before making token alterations to their "original" game. The 64 version of Denaris turned out better than R-Type, and is still one of the best games of its kind. Good music, effective graphics and big motherships round off the zappy gameplay. A very tasty shoot 'em up all round.

Stormlord (Hewson)

One of the best examples of 64 graphics came from Hewson last summer. Stormlord plays the staring role in a fantasy arcade adventure, in which he has to rescue a bunch of fairies from the confines of magical bubbles created by an evil scorceress. The gameplay fol-



Myth (System 3)



Denaris (US Gold)

lows the traditional format, with object manipulation and platform negotiation accounting for most of your time. The graphics are amazing, and although the gameplay can't quite match the graphics, it's clever enough to keep you puzzling through the levels for a long while.

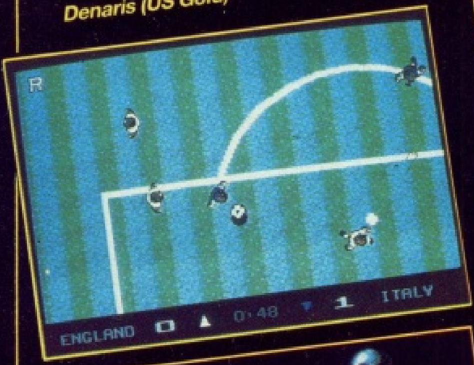
3D Pool (Microprose)

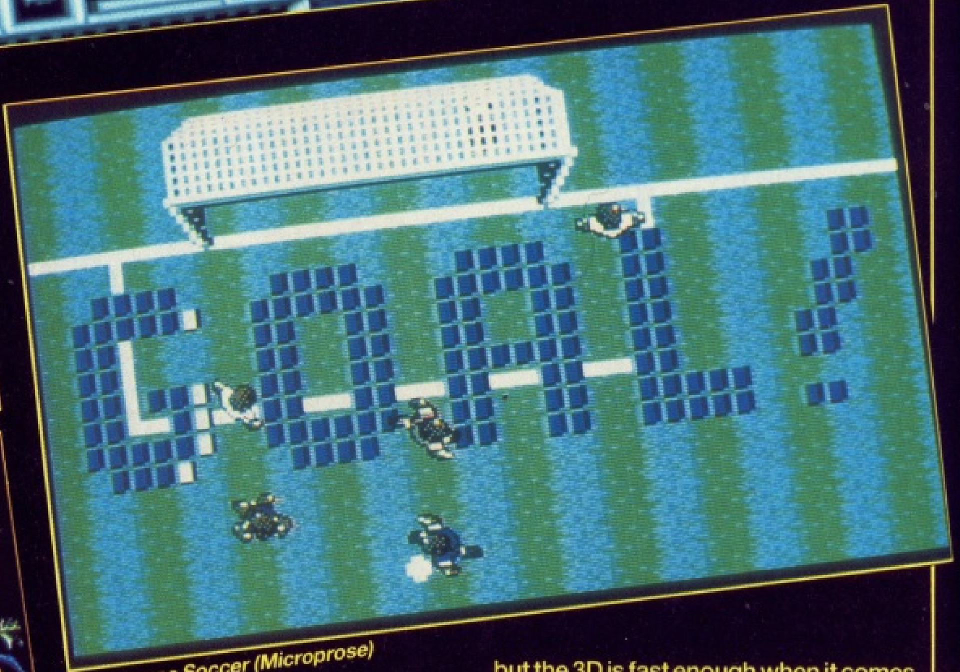
Just as its title suggests, 3D Pool is a pool simulation in solid 3D. The 64 isn't cut out for solid 3D, but it copes well all the same. UK pool rules apply, and you get a full seven balls for each player. The table is rotated and titled not just for an overview of the situation, but to line up each shot. The computer players are very slow thinkers, which puts a bit of a damper on the single player mode. With a second player things speed up a bit. Games still move along at a meander, but the 3D is fast enough when it comes to taking the shots. The only real fault is the low maximum power allowed for a shot. Other than that, 3D pool is easily the best, and most original pool sim around.

Emlyn Hughes International Soccer (Audiogenic)

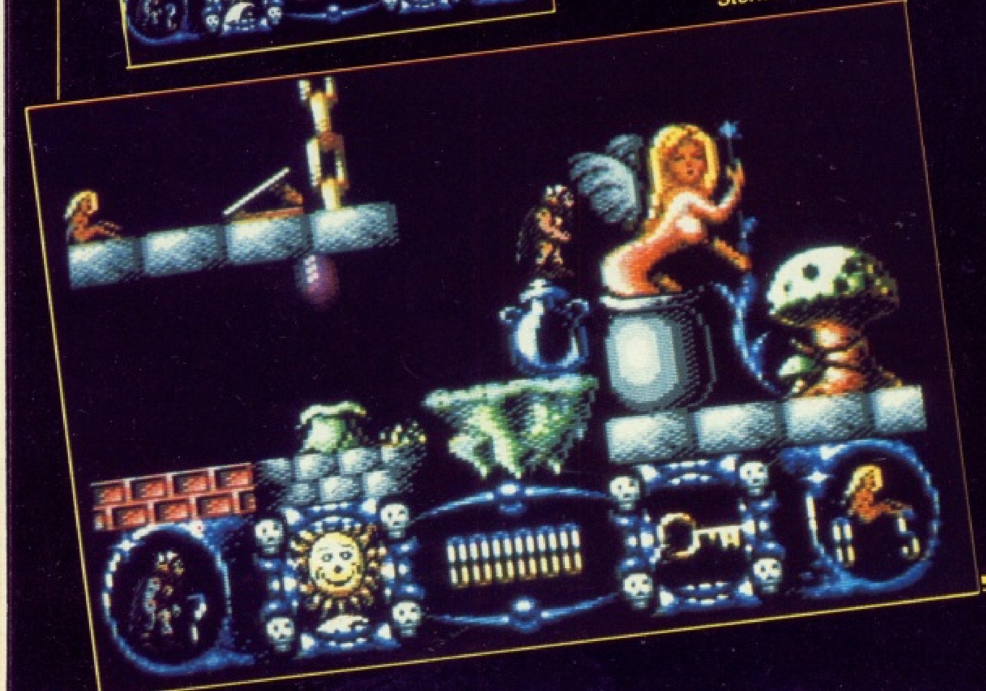
First impressions aren't at all good. However, once you've got over the blocky sprites, a brilliant footy game unfolds. It's presented like the old Commodore International Soccer, with a scrolling view from the stands. It plays far faster, and has the additions of slide tackling, sixteen-way shooting, and a cup competition. There's also the option for two people to play on the same side. The ball movement is smooth and realistic, and it plays superbly; just some of the reasons why it won two CCI Oskars.

T.H.





Microprose Soccer (Microprose)



Stormlord (Hewson)

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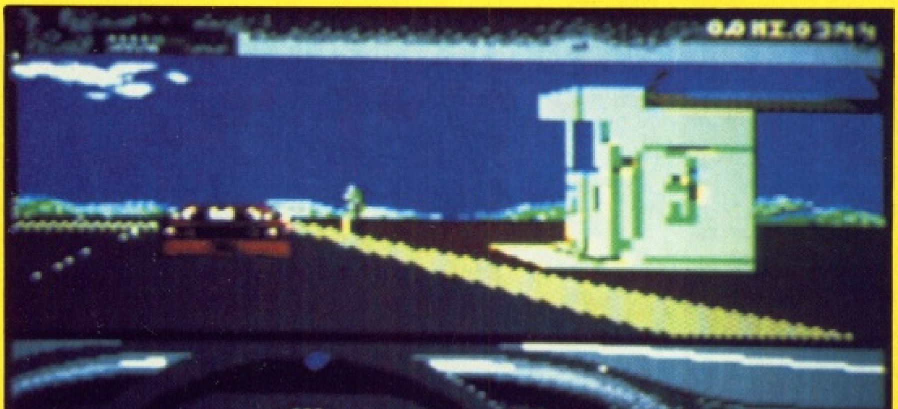
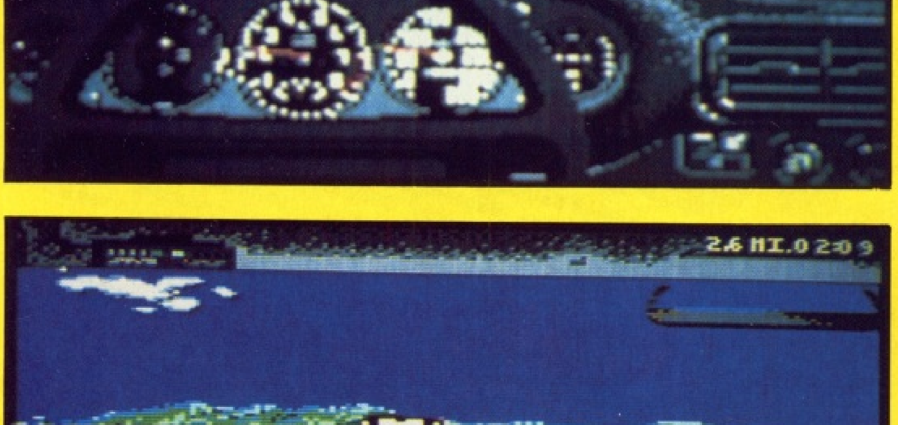
The Duel: Test Drive II

Accolade

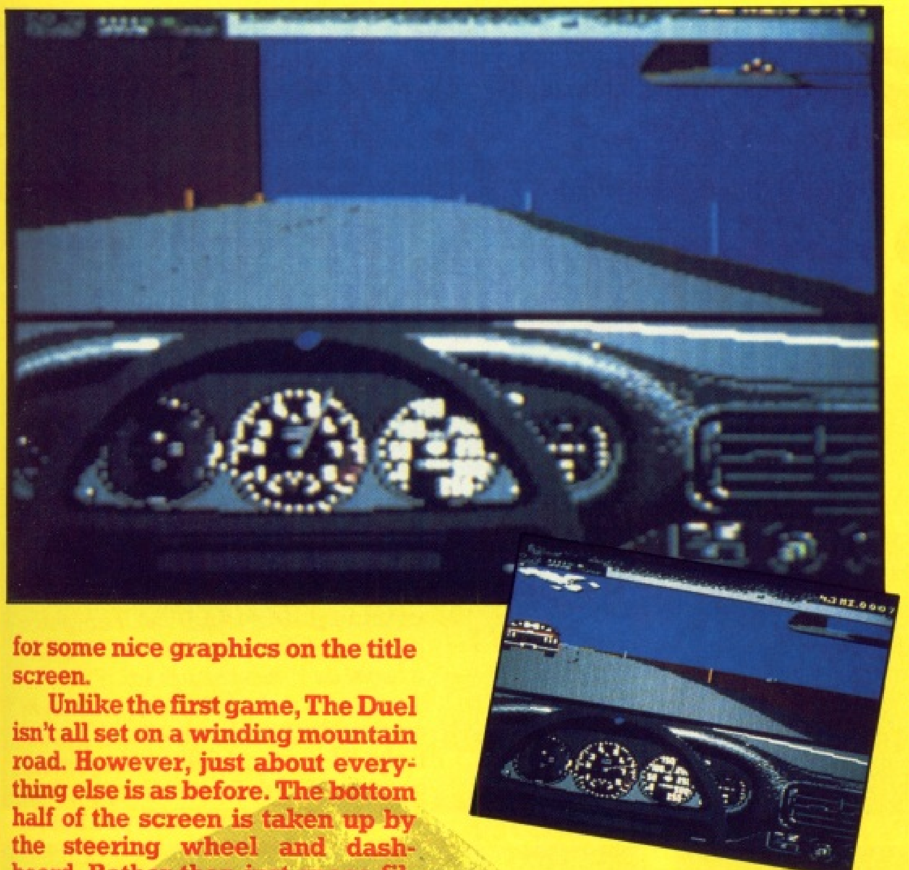




Had the state of 3D racers on the Amiga been anything like it is today, I doubt that at the time of its release, Test Drive would have been as popular as it was. Its only aspects that called upon any substantial amount of the Amiga's power were the superb profiles of the cars, which were only seen in the intro sections. As the game itself was quite slow and jerky, the 64 version came fairly close, and so was probably better received because of the iffy Amiga game. Competition for the 64 version hasn't come on much since then, and first impressions of the sequel suggest that Accolade have sat on their laurels.

> *"The bottom half of the screen is taken up by the steering wheel and dashboard. Rather than just space fillers, these do have a use in the game."*

A couple of years ago, every car game featured a Ferrari Testarossa and a Porsche 911. Now they've all changed to the newer Ferrari F40 and Porsche 959, and The Duel follows suit. You can choose to drive either, in an illegal burn up with a computer controlled boy racer. Which one you choose has no apparent relevance in the game, but it's a good excuse



for some nice graphics on the title screen.

Unlike the first game, The Duel isn't all set on a winding mountain road. However, just about everything else is as before. The bottom half of the screen is taken up by the steering wheel and dashboard. Rather than just space fillers, these do have a use in the game. A dot on the wheel indicates how sharply you're turning, the speedo and rev counter both work, and the window on the right shows which gear you're in. The rear view mirror also works, warning you of any cars coming up from behind.

You're in America, so it helps to drive on the right. The horizon is only a few hundred yards ahead of you, so you don't get much warning of any traffic, even on the straights. Overtaking usually has to be done in the left hand lane, which is tricky at high speed with such low visibility. From time to time, you'll have the luxury of a third lane for overtaking. For most of the game, the screen update is fast enough to keep the road moving smoothly, but it trips up when it comes to the other cars. It's not so bad with those on your side of the road, but those speeding past in the opposite direction often only appear for three or four frames before passing you, or running right into you. The steering control, which allows you to turn as little or as much as you like, would work fine for a Sunday drive. However, when you need to whip the wheel sharply over to one side, and get a realistic response, all you get is a gradual slide in the chosen direction. Having never driven a 959 or an F40, I can't say how true to life that is, but even my old Strada handles better than that!

"If you lose your bottle, you could slow down to the speed limit, but that's only for complete wimps, as outrunning the cops is no hassle."

I was disappointed to see the universally-criticised crash sequence of the first game had not been improved upon. I'm sure the programmers could have come up with something a little more dramatic than a cracked windscreen. The police also put in a second appearance. A radar detector warns you of a police speed trap. If you lose your bottle, you could slow down to the speed limit, but that's only for complete wimps, as outrunning the cops is no hassle.

The main improvement over the first game is the increased variety of scenery. Even though there's still not much difference between most of the levels, changes as simple as a new colour scheme make it that little bit more interesting. There's also an option to put the game into fast mode, which sacrifices some detail in exchange for a speedier game. That's the theory anyway, but you'd be hard pushed to notice any significant difference in the speed.

Compared to Power Drift for example, The Duel gives a far less convincing impression of speed. However, it gets away with it because of its more simulatory style. It fails to give the impression of speeding along a road in an F40, but still has a place in my collection for its slightly more realistic feel. Not stunning by any means, but a very pleasant game that offers something a bit different from a Sega coin-op conversion. Recommended. *T.H.*

Graphics: 68%
Sound: 51%
Playability: 74%
Overall: 72%
Price: £9.99 (cass)
£14.99 (disk)

Amiga

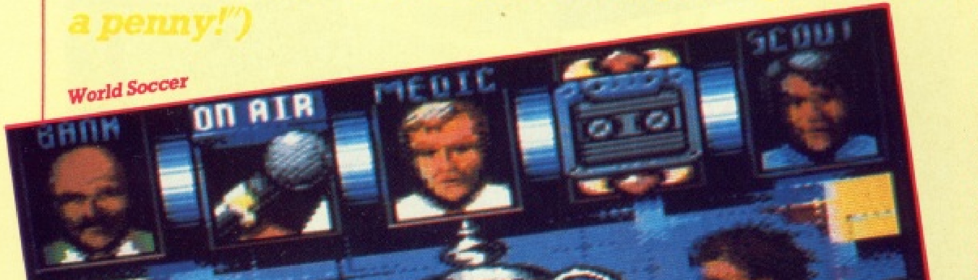
Technically, the Amiga version is somewhat behind the times. The graphics update at around the same speed as the 64 game. Hard Drivin' and Super Hang On among others have shown what can be done, and the Duel falls a long way short of matching their speeds, fluidity and amounts of detail. There's very little to separate the 8-bit and 16-bit games, although the Amiga version does include some outstanding profiles of the two cars. All that highlights the overpricing of the Amiga version, which doesn't quite make the grade.

Graphics: 55%
Sound: 58%
Playability: 68%
Overall: 52%
Price: £24.99

Bargain Bucket

"In my day, you could go down to the football on a Saturday afternoon, catch the bus back home, grab a bag of chips on the way, get a right skinful later in the pub, and still have change of a sixpence!" reminisces Tony Horgan, as he takes a delve into the overflowing bargain bucket. ("Chips? In my day all we got was the bag to eat!" says the Ed. "And the whole family lived in a bucket! And you could get 10 computer games for a penny!")

World Soccer



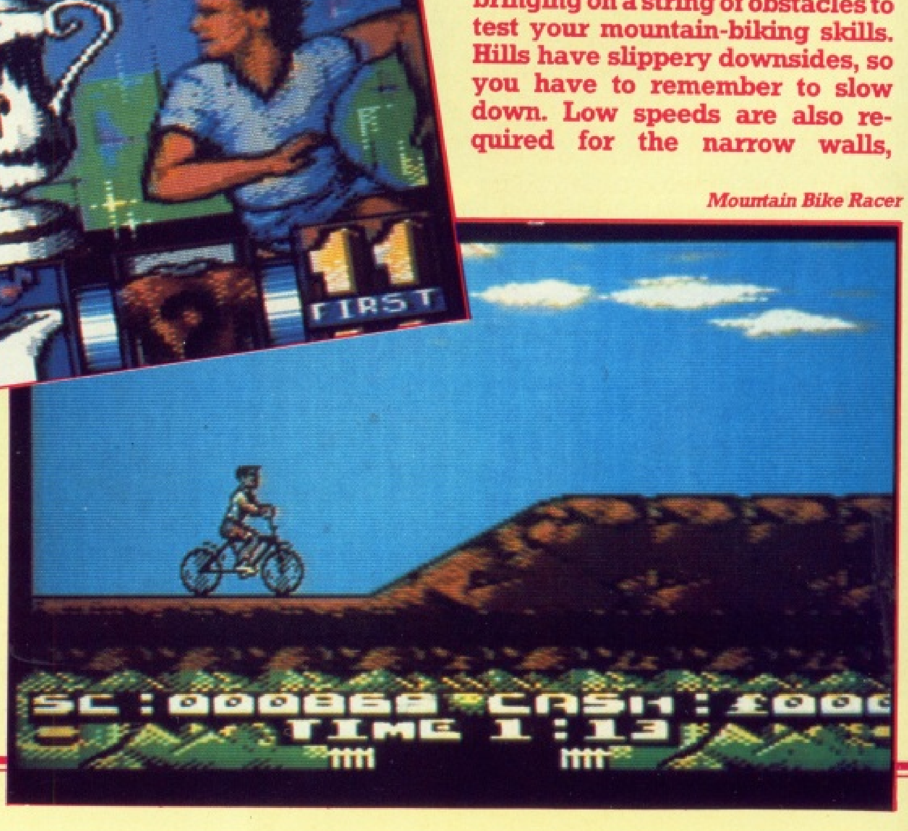
World Soccer (Zeppelin) £2.99

As with most of Zeppelin's games, World Soccer is very attractively presented. It's a fairly simple Football Manager clone, tarted up with some nice colourful graphics. From the main screen, you can choose to pay a visit to the scout for info on recommended available players, sell players, take out or pay back a loan, check the team's fitness and line-up, or play the next match. Match results come in the form of an animated commentator and a computer printout. There's no sound, but the graphics liven things up. The cut-down price leads to a cut-down game. With only the bare essentials of a football management game, World Soccer's appeal is limited. (And why can't you bet on your team losing?)
Overall: 70%

Mountain Bike Racer (Zeppelin) £2.99

The latest Kikstart clone with a mountain bike for added trendiness is a bit of a let down. The screen scrolls from right to left, bringing on a string of obstacles to test your mountain-biking skills. Hills have slippery downsides, so you have to remember to slow down. Low speeds are also required for the narrow walls,

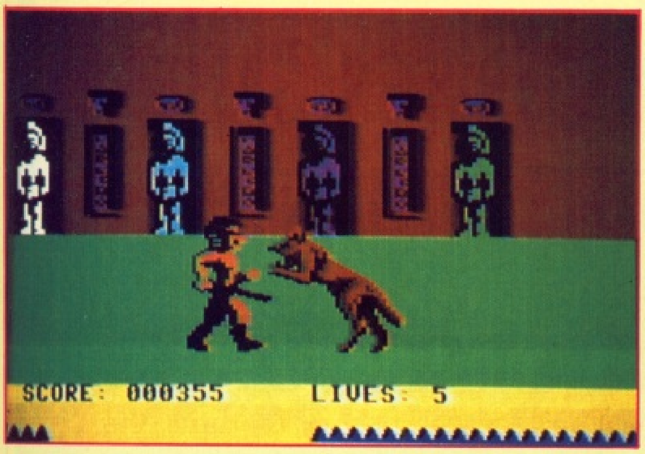
Mountain Bike Racer



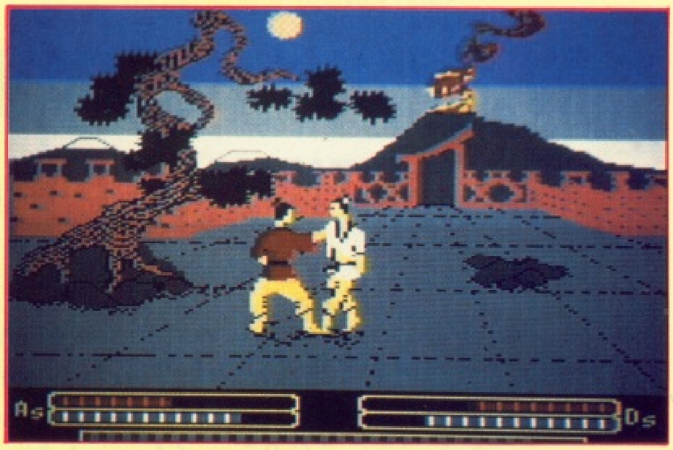
whereas rocks and spikes have to be jumped over. The graphics are neat without being dynamic, and all the programming is of a high standard, but the game is without any great degree of excitement.
Overall: 68%

Fighting Warrior (Mastertronic) £2.99

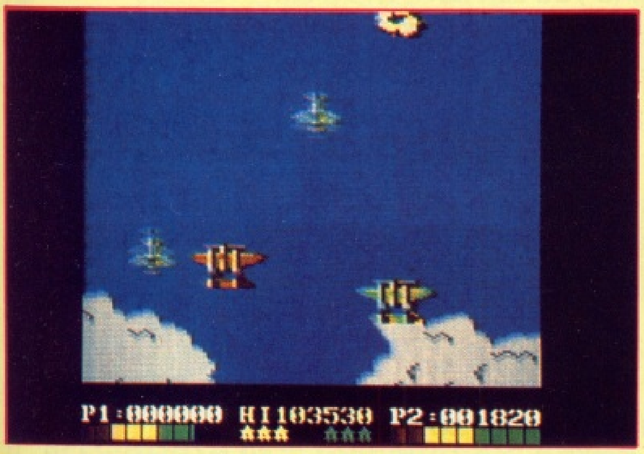
This follow-up to Melbourne House's revolutionary Way of the Exploding Fist came as a disappointment at the time. Even so, Fighting Warrior isn't that bad a beat 'em up. It's set in ancient Egypt, and gives you the goal of reaching a temple guarded by a small army of vicious beasts. You have three attacking moves at your disposal, as you beat your foes with a heavy stick. The gameplay sometimes lapses into a simple exchange of blows between you and your enemy, but on the whole it plays well. The sprites are fairly big, drawn in an original style, and realistically animated. It's far from the best beat 'em up around, but it should satisfy in the short term. And from the charts, it looks like it is already proving popular and may well get to the top.
Overall: 76%



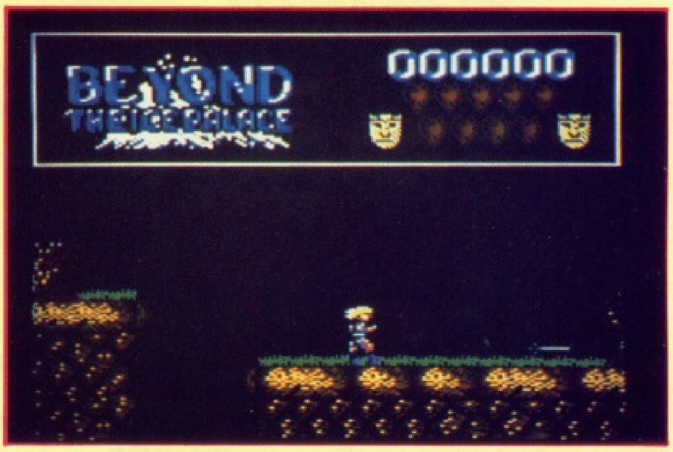
Fighting Warrior



Samurai Trilogy



1943



Beyond The Ice Palace

Samurai Trilogy (Kixx) £2.99

This is one of the most cluttered arcade games I've ever played. The core of the game is made up of three beat 'em ups: karate, samurai and kendo. Before you get to play any of these, you have to endure a multi-load, followed by countless options screens, in which you build up your character's strength in different areas, and select loads of other pointless parameters. That pathetic attempt to fool the player into thinking the game has depth, is followed by one of the slowest combat games ever. The sprites are large and fairly well drawn, but at the expense of gameplay, which is almost non-existent.
Overall: 20%

1943 (Kixx) £2.99

If you've played 1942, imagine the same game with parralax-scrolling clouds and ships, and you've got 1943. It's a standard vertically-scrolling wartime zapper, for one or two players. Small fighter planes provide the bulk of your troubles, with guest appearances from much bigger bombers and battleships. Both sound and graphics are passable at the price, but unless you want a severely dated, unoriginal and only mildly enjoyable shoot 'em up, look elsewhere.
Overall: 55%

Beyond the Ice Palace (Encore) £2.99

The best of this month's selection takes its inspiration from a previous Encore re-release, Ghosts 'n' Goblins. The multi-directionally scrolling levels are somewhat less detailed than Goblins', but the main sprite is smoothly animated. The platform action is spiced up with a bit of shoot 'em up, and makes for an addictive game, spoiled only by a few too many unavoidable deaths. The attractive graphics are matched by some decent sound effects. At the price it's not bad at all.
Overall: 84%

T.H.

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All you have to do to be in with a chance of winning, is find the answers to these few questions (they can all be found somewhere in this edition of CCI). And YOU can have these ten of the most awesome 64 games ever! (If your card is drawn out of the Comp Sock by the lovely Sandra!)

1. **Which two cars can you drive in "The Duel"?**
2. **What is a "P-47"?**
3. **Name the follow up to "Way of the Exploding Fist".**
4. **What cannot be read into numeric variables?**
5. **In which century is "Castle Master" set?**

Write your answers on a postcard (tell us whether you want cassette or disk) and send them to:

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CHART SHATTERING EVENTS!

T.O. (that's Turbo Outrun not Tony 'Organ!) holds onto The Big One but this month (or Lunatic Period as some programmers call it) sees the dramatic re-entry of Ocean's Chase H.Q. (what happened to it last month?) at Second Spot. The Battieman's wings weaken and it sinks to Four. (Did you know that Vampire bats eat their weight in blood every two days? And that software houses do the same with cash?) Highest new entry at Five is Gazza's Super Soccer which should be popular with Liverpool or Glasgow fans.

The other two new entries are USG's G 'n G follow up (see Budgets for that one) Ghouls 'n Ghosts and Thythtem Threeth Myth (Don't take the pith out of them, mithter) They've got the betht 64 hitth record of any gameth thoftware houth!)

Thunt – I'm sorry – Stunt Car Racer – possibly the best racing game around, and there are scads of them, holds onto Le Numero Un of les Amigas. But Ocean's Op. Thunder climbs two to Two. Anco's sharpshooting follow-up to their great Kick-off hit, Extra Time, scores at Four. And loads of loaded Amiga users are going on paying £34.95 for "The Beast", enough to keep it up there. Ubisoft's Pro Tennis aces into Five.

Budgeteers may not be so loaded but they are going on snapping up their G 'n G and keep it at One. And good old Master of the Worldtronic – the originators of the cheapo market – have the only new entry at Two with Fighting Warrior. Hang in there, Frank Herman!

Z.M.S.

(C64) GAME TITLE	COMPANY	LAST MONTH	RATING	PRICE
1. Turbo Outrun	U.S. Gold	(1)	63%	£9.99
2. Chase H.Q.	Ocean	(–)	70%	£9.99
3. Ghostbusters II	Activision	(2)	52%	£9.99
4. Batman The Movie	Ocean	(3)	73%	£9.99
5. Gazza's Super Soccer	Entertainment Int.	(–)	TBA	£9.99
6. The Untouchables	Ocean	(4)	74%	£9.99
7. Ghouls 'n Ghosts	U.S. Gold	(–)	74%	£9.99
8. Myth	System 3	(–)	94%	£9.99
9. Stunt Car Racer	Microstyle	(5)	80%	£9.99
10. Indiana Jones (action)	U.S. Gold	(9)	80%	£9.99
(AMIGA) GAME TITLE				
1. Stunt Car Racer	Microstyle	(1)	90%	£24.99
2. Operation Thunderbolt	Ocean	(4)	71%	£24.95
3. Shadow of The Beast	Psygnosis	(5)	79%	£34.95
4. Extra Time	Anco	(–)	TBA	£24.95
5. Shadow of The Beast	Ubisoft	(–)	77%	£24.99
(BUDGET) GAME TITLE				
1. Ghosts 'n Goblins	Encore	(1)	92%	£2.99
2. Fighting Warrior	Mastertronic	(–)	69%	£2.99
3. Wizball	The Hit Squad	(2)	05%	£2.99
4. Rally Cross Simulator	Codemasters	(3)	83%	£2.99
5. Paperboy	Encore	(4)	69%	£2.99

Adventure

BY ANDY MOSS

COMMENT

The CCI Adventure Chronicles are opened again for another month, and I warmly welcome you back. In case you didnt know it, Adventures are IN at the moment! Each software house I talk to tells me about 'this new adventure we have planned'. Things have certainly taken an upturn, consequently I have had a stack of reviews to get through this month, and in my eagerness to bring you everything that is happening, there are no less than SIX adventures reviewed!

All this hasnt stopped me from reading January's Adventure Probe, a fanzine that has continually kept a very high standard. Due no doubt to its Editor the lovely Mandy, whose tireless efforts over the past two years have made it very interesting reading. One article I read dealt with 'famous last words' and prompted me to come up with a few of my own. Every self respecting adventure player will recognize the following;

'I won't save it just yet, I'll open that door first....'
'I will overwrite the last save 'cos I won't need it anymore.....'
'I trust my datacorder completely, it never fails......'
'Who needs to map a maze?....'
'How was I to know he comes and picks up the things you drop in the maze!!!!!!!'
'WHICH KEY THE GOLD ONE OR THE WOODEN ONE!!!!!????'
'What bronze key?....'
'What bronze box?'
'Where?'
'???XXX!!!VVV****'

If any of you have any 'FAMOUS LAST WORDS' send them into me soon.

ADVENTURE NEWSDESK

ACTIVISION RING IN THE NEW

Things are changing over at Activision lately, following the departure to pastures new of my trusted informant Amanda Barry. Their press launches will never be quite the same again. Lots of love Mandy, I wish you well at Lynne Franks. Jumping into her shoes so to speak is Lorna Smith, who immediately warns me of a new role player in the making by Vivid Image (who were responsible for System 3's Last Ninja). Named TIME (haven't I heard that before a few times?) you play the part of a time traveller in a 4 dimensional fantasy tale where to control your destiny you need to manipulate history from prehistoric time to the present day.

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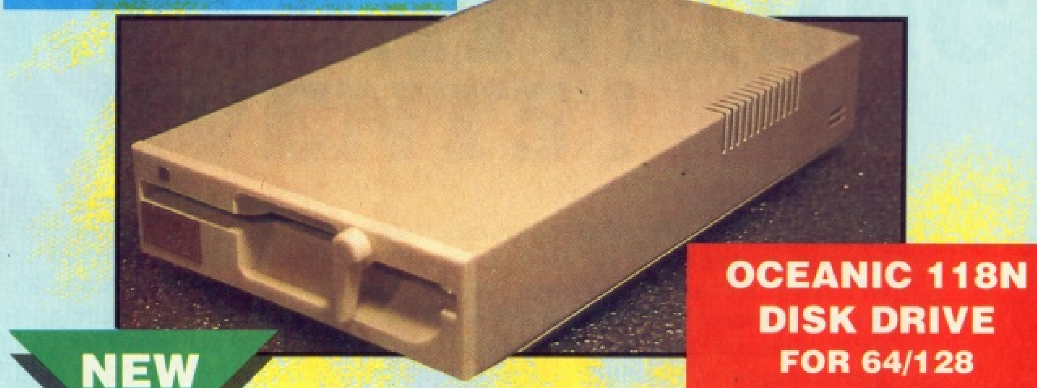

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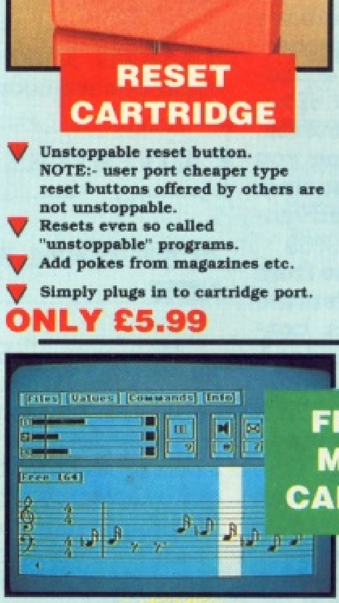

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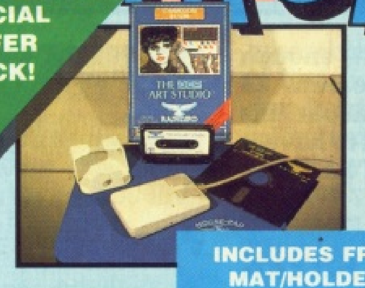

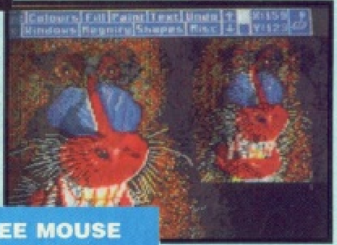

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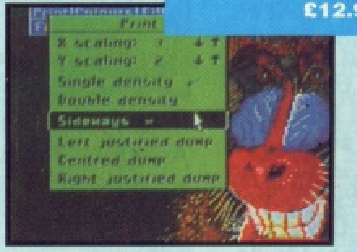

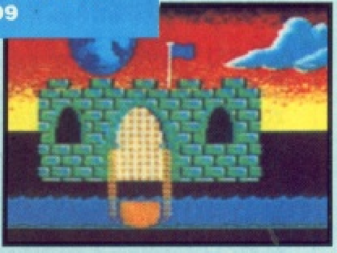

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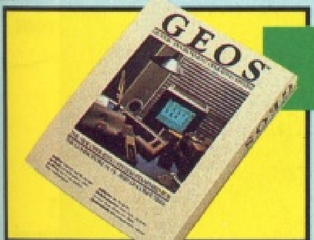

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business, amassing enough wealth to begin the search. US Gold are very excited about this new release, and expect to have it ready by May.SEE REVIEW NEXT MONTH.

CHAMPIONS OF KRYNN NEAR COMPLETION

SSI have announced that the Champions Of Krynn, their new role playing epic again based on the DRAGONLANCE series, as was Pools Of Radiance, is nearing completion. In this version, you guide your party of six through a web of intrigue and combat to defeat a plot by the forces of evil to establish the dark Queen Takhisis as undisputed Ruler Of Krynn. All character classes from POOLS and Curse Of The Azure Bonds are found here plus many characters from the Dragonlance novels.

DOMARK JOIN UP WITH INCENTIVE

Incentive Software, after the success of Dark Star, has returned to its adventure roots with a new game CASTLE MASTER. Using Domark to market the game, Incentive have devised a graphic adventure using 3D solid polygons. The main plot is to find and rescue a princess from one of four castle towers, the sub plot is to overcome the many hazards that lay before you. There are scores of locations both inside and outside the castle with masses of puzzles and clues to solve along the way. Sound terrific? You bet. Watch this space.

ELECTRONIC ARTS GET IMPERIAL

EA, never ones to pass up a new idea, are releasing IMPERIUM, a complex strategy game set in the years following 2020. The game simulates the next thousand years of human development, and has you seeking to become the last surviving emperor of the Galaxy. This involves the skillful manipulation of economic, diplomatic, political and military factors. The graphics have been created by Karl Cropley, who was responsible for Hound Of Shadow pictures (see review).itals

NEW BLOODWYCH LEVELS

Mirrorsoft have released new data disks for Bloodwych, which will act as an add on for the original program. The first new disk will feature a futher six character levels and 25 new maps along with new monsters.

WITHOUT FURTHER ADO... ON TO THE REVIEWS...

THE HOUND OF SHADOW

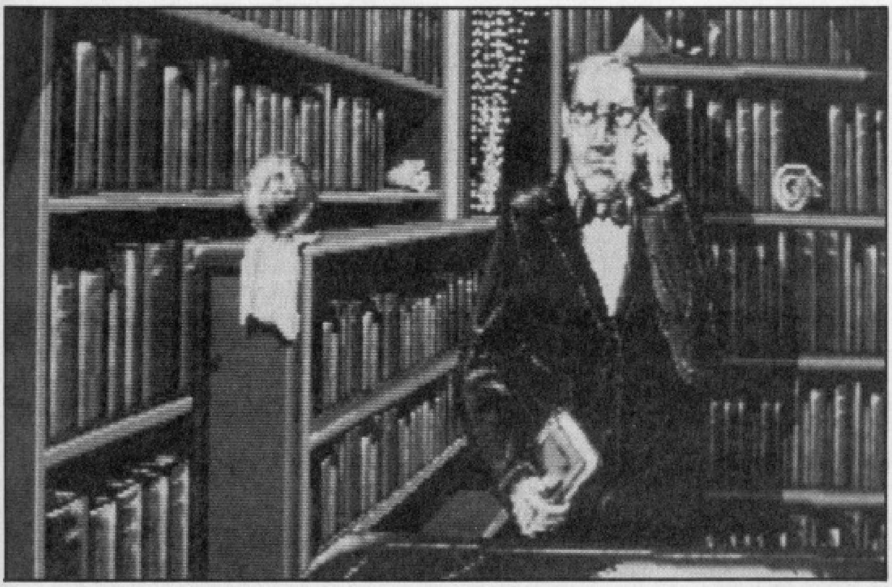
ELECTRONIC ARTS TEXT/GRAPHIC

THE HOUND OF SHADOW is an adventure which incidentley is a pure role playing text game with picture graphics every now and then.

The main engine room of the adventure is the 'Timeline' system which allows the user to create a character that not only has the usual skills and strengths, but also a detailed background, including date of birth, sex, religion and knowledge. What this means is that this and any future Timeline adventure, will recognise this character and adapt itself to it, making the character as real as possible. After all in real life, people know whether you are a man or a woman, and they use your name if they know it. Even if they don't, they may get to know you by sight, or reputation, if you try. Your characters profession and skills are very important to how you progress in the game, as for instance, two characters may find out the same thing in different ways, and what comes easily to one may be hard for the other.

The writers are quick to point out that HOUND is not a conventional computer adventure, where gameplay relies heavily on collecting objects, and solving puzzles, rather, it is a role playing game set in the London of the 1920's and runs in real time.

On loading you have to generate your character, and after choosing which sex you are, you get to choose a profession, which ranges from reporter, to socialite. You skills are next, and here you get the chance to adjust certain attributes in a limited fashion.



This list is particularly lengthy, but necessary to mould your character properly.

Once your character is created, you save it to disk, and then plunge into the murky world of the occult. You need to talk to a lot of the characters in HOUND, and at last, you do not need to type in ‘say to Fred....‘ and you do not enclose the sentence in quotes. What you do is just ask in plain English what you want such as Excuse me, does John work here? Simple huh? Another nice feature is that you can move around very easily, no more west,west,south,south,east to go back home , just type ‘go home‘ and you will automatically be there. The beauty of the adventure is not making you find each ‘room‘ but rather how you manipulate the story using the information that you learn. Just like in real life, you cannot act on knowledge that your character does not have. The user friendliness even stretches to a listing in alphabetical order, of the main verbs used in the game, and on that point the authors get a clap on the back from me.

PERSONAL RATING 10

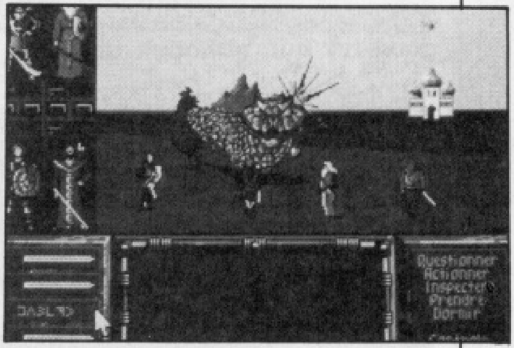
DRAKKHEN

INFOGRAMES ANIMATED ROLE PLAYER

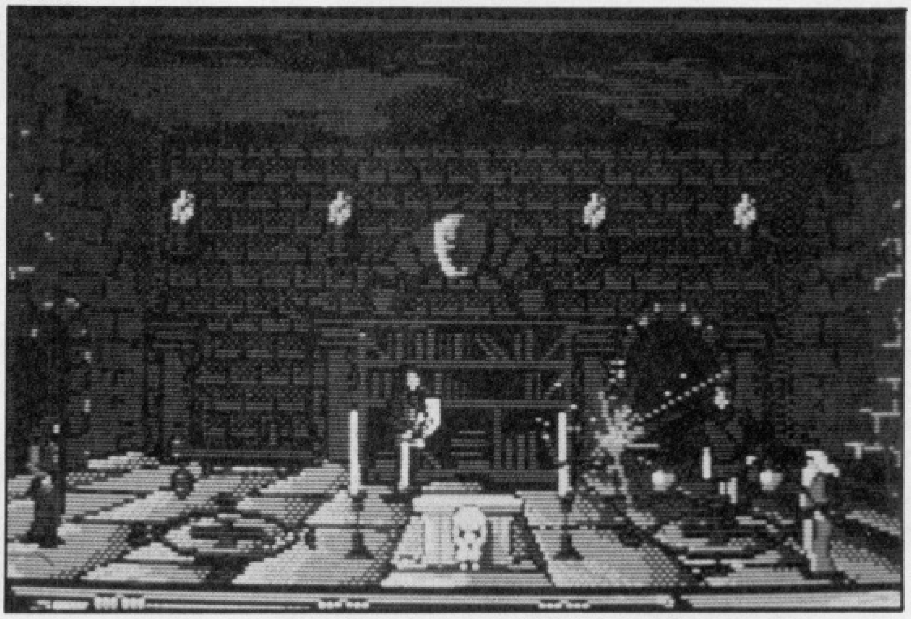
I was fortunate enough to be invited to Infogrames London HQ where the lovely Christel personally took me through the game. Drakkhen really is a milestone in 3D computer role playing, as it is the first game I have seen to really give you a feeling of first person movement that is really FAST. This only happens when you are travelling on the outside world. When your party enters a building, the screen changes to a more traditional view of all your characters. Initial start up, which by the way,features a great opening sequence, has you creating your party, and here a nice routine is implemented where you drag your chosen stats into your required abilities using the mouse. Once your party of six has been assembled, you are off on a quest to find eight dragons on an island that is 64 kilometres square. The Island is divided into three distinct terrain types; desert, field and sea and each has its own fair share of monsters to do battle with. Time stops for no man, and day will turn into night, but with nightfall comes the stars, and you can use them to find your way around.

Drakkhen is packed with puzzles, contains some wonderful music (something that Infogrammes are noted for) and is pretty well fautless as an adventure. My favourite monster is the‘ I Love You‘ monster, who charms you to death! Well, If you are going to die you may as well enjoy it. As you can see from the screen shots, the graphics are superb, and the gameplay is first class. Recommended.

PERSONAL RATING 10



Drakkhen



MYSTERY OF THE MUMMY

RAINBOW ARTS
TEXT/GRAPHIC

Hamburg,1912. You are on holiday enjoying a well—earned rest from your sleuthing, when you meet a gentleman who insists you take his case. It is regarding a curious missing Mummy that has seemingly disappeared from the museum. Your trail takes you through Hamburg, visiting all the major locations in the city, but you only have five days. To help you in your task is a telephone complete with a directory of some 100 numbers, many of whom require a call. Also on hand is your car and chauffur, who will take you to any location you need to visit. The game is displayed in a brown tone which portrays a 1900's feel, and all actions are taken care of using icons. There are a couple of 'action 'sequences in the game, one requiring you to go diving to find two important exhibits under the sea. To be honest, the game deserves a good try out, although the icon system does take a bit of getting used to. But as a detective mystery story, it works very well.

PERSONAL RATING 7

STAR FLIGHT

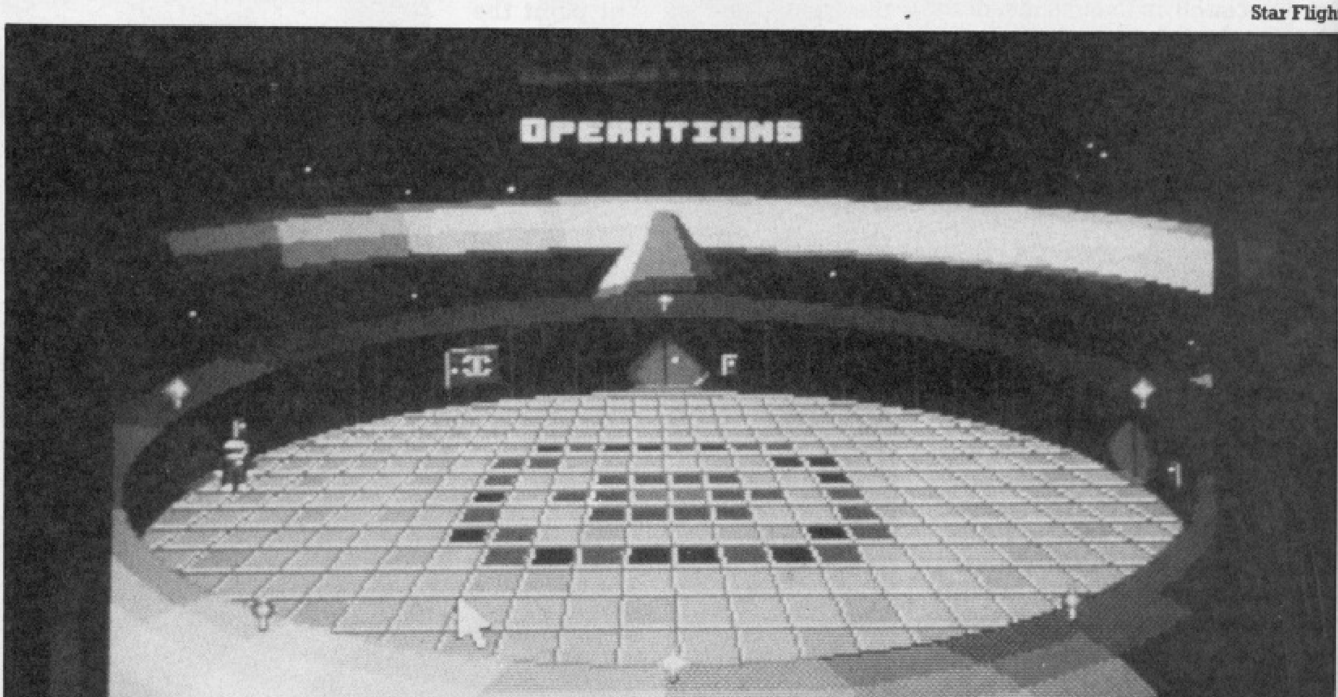
EA
TEXT/GRAPHICS/
ANIMATION

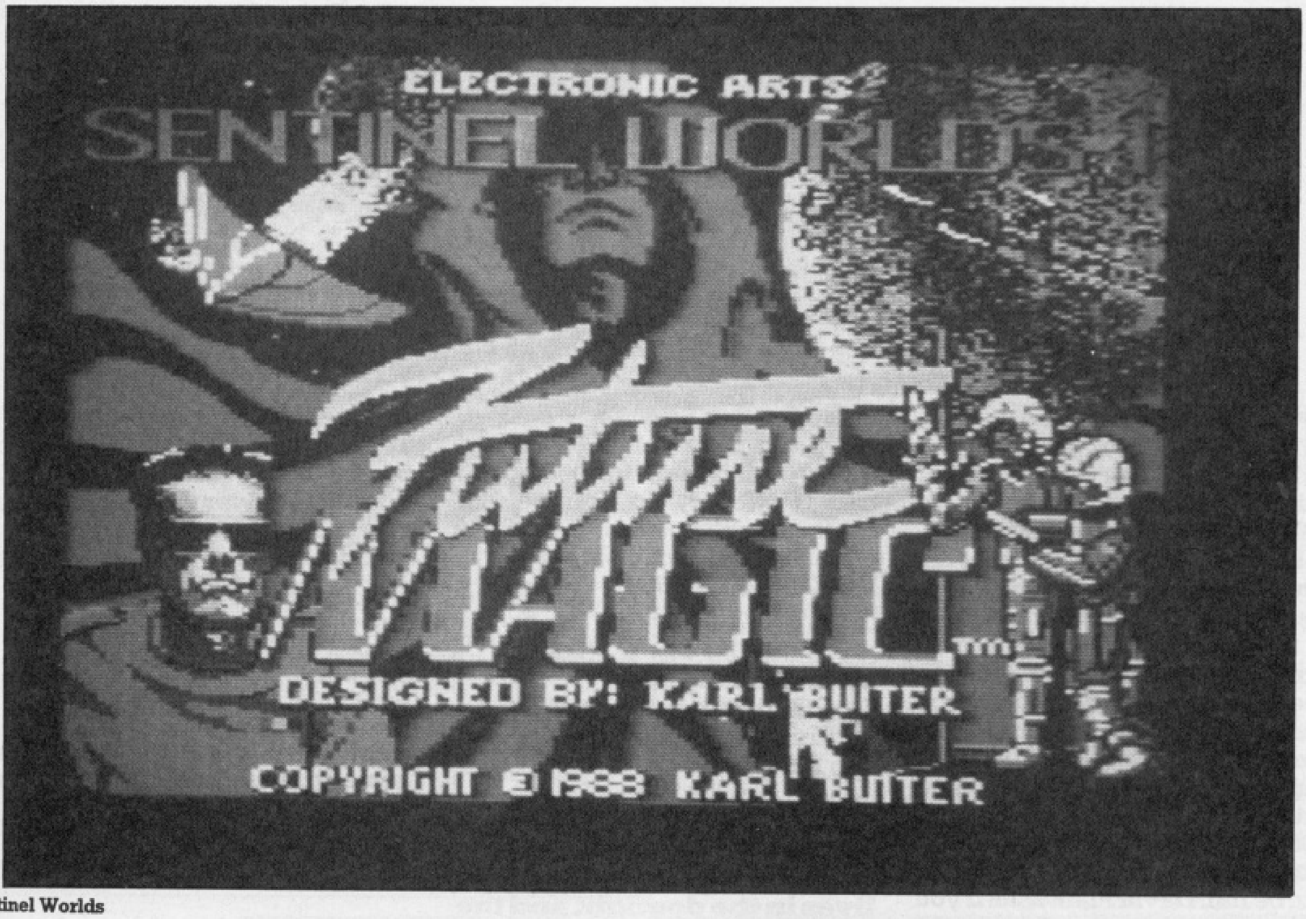
Star flight is not so much an adventure, more an exploration and discovery game. Set in the future, you have over 270 star sytems and 800 planets to visit in your quest for knowledge. The ruling party of your base Planet has decided that due to recent discoveries deep in the Planets crust, of an ancient alien civilisation, the need for deep space exploration to unlock the secrets of the universe is sorely needed. Due to budget restrictions, you are only provided with enough money to buy a starter ship and train your crew of six. The only way to gain more revenue is to discover and explore new planets, mine minerals found there to fill your cargo holds and then return to base to sell your wares. More money means you can buy more sophisticated weaponry, better defences and more cargo holds. This bit is a lot like Elite, although the trading angle here is merely a sub plot, the main thrust being exploration and discovery, so money is fairly easy to come by.

There is a great deal of depth to the game, which has taken over 15 man years to develop, and in the short time I played it, it left me in no doubt that my exploring would take me almost as long. There is no fixed path through the game, so any strategy can be used, however, disaster can strike by say running out of fuel or money, getting killed in combat or landing on a planet without properly researching its dangers and getting crushed by its gravity! Shades of Star Trek certainly, so boldly go where no man has gone before and get a copy today.

PERSONAL RATING 8

Star Flight





Sentinel Worlds

SENTINEL WORLDS

EA
RPG/GRAPHIC

Trouble is brewing in the Caldorre System, cargoliners supplying frontier planets are being destroyed by raiders. You are sent on a mission by the Federation to find out who is behind this and put an end to it all. Created by the same man who designed Earth Orbit Station, Sentinel Worlds is a curious mixture of RPG action and a whodunnit mystery, You get to build a 5 cadet team, each one with different characteristics and traits and then explore a universe full of danger. I think the author has tried to pack too much into this game. The space battle scenes are very unconvincing, and remind me of very early 64 shoot em up games written in BASIC. This sacrifice is to allow the player to explore three separate worlds meeting over 100 different characters, and I think less packing in and more attention to graphics would have achieved better results. As it is, there is a game there, it's just rather slow and ugly.

PERSONAL RATING 4

DEMONS TOMB

VIRGIN
TEXT/GRAPHIC

Billed as probably the toughest adventure you will ever play, Demons Tomb is certainly a challenge. In fact it starts off in the most ingenious way. You actually play two parts, in the first you are a scholar of ancient Egyptology, who realises that you have been doomed to die, trapped in a tomb with fire advancing towards you. You must somehow save everything of importance from the fire and leave enough clues so that your son can take over after your death which unfortunately for you is inevitable. After the old man is killed, you assume control of his son, and provided you have preserved enough clues you should be able to continue on to find out who killed your father. Fantastic! The story is one of pounding excitement, and very tough though solvable puzzles. Text can be inputted by either keyboard or line editor, and with RAMSAVE/LOAD and all the usual options, there is one hell of a game here. It really deserves more space than I have here, so we will return to Demons Tomb another time.

PERSONAL RATING 10

THATS ALL FOR THIS MONTH, BARDS TALE SOLUTION AND YOUR LETTERS HAVE HAD TO BE HELD OVER DUE TO ALL THE REVIEWS BUT WILL BE BACK NEXT MONTH.

HORGAN'S HINTS

Just recently I've had a lot of enquiries about resetting the C64. There are a few ways of doing it, some safe, some not so safe. The not-so-safe method involves connecting two specific pinouts on the cassette port, but you're better off doing it with one of the purpose-built switches or cartridges on the market. Datel do one for #5.99, which will let you break out of any machine code program and into BASIC, without wiping the memory. You can then enter any pokes, and as long as you have the restart address (SYS number), the modified program can be run. David Plant asks if you can reset by pressing RUN/STOP and RESTORE. You're only likely to find that works with very old games, as programmers almost always disable the restore key. Any pokes without a restart address need to be entered with a more sophisticated cartridge, such as the Action Replay or Snapshot.

This month, there's been a lack of restart addresses for the C64 pokes. No problem for those of us with hack cartridges, but not much use to the rest. In future I'd appreciate restart addresses with all "reset" pokes. Thanks.

C64

Retrograde

Load and reset this classy blaster, and enter:

POKE 50897,x

Substitute x for the number of lives you want, from 0 to 255

Toobin

Up to 255 credits can be yours, simply by reseting the game and entering:

POKE 34684,x

Change x to the required number of credits

Microprose Soccer

Enter the poke below to disable the opposing team in the second half. However, make sure the goalie doesn't get hold of the ball, or you'll be in for an early bath.

POKE 36915,165

Rocket Ranger

The following pokes have to be entered each time you play the sub games.

POKE 7013,165 (infinite lives in the desert)
POKE 7390,165 (infinite lives in the dogfight and the temple)

Incredible Shrinking Sphere

Reset the game before entering:

POKE 33768,173
POKE 33783,173
POKE 39270,173 (infinite lives)
POKE 38839,165 (infinite ammo dumps)

Amiga

Chase HQ

Put the disk in the drive and begin tapping the spacebar as quickly as possible. Keep this up until the whole thing has loaded (past the mission briefing screen), and your top speed will go through the roof. Once you've arrested the first criminal, start tapping again, until the next level loads, doing the same between each following level. Then again, you may choose to use this more ordinary cheat mode. During the game, hold down both the fire button and the left mouse button, whilst typing **GROWLER**. You can now reset the clock to 60 seconds by pressing T.

Operation Thunderbolt

To start out with the laser-sight, press F8 or F9 instead of F1 or F2. The more adventurous could try clocking up over 50,000 points, getting onto the highscore table and entering **SPECCY MODE.**

Battle Squadron

Type in **CASTOR** during the game to bless both players with invincibility.

Now listen up! But *for* the three pokes sent to me by Mark Seward, this edition of Horgan's Hints has been entirely without your help. Have a heart, and pull your fingers out, please. As if I didn't have enough to do, what with mucking out Buttercup, our beloved bovine who operates the CCI printing press treadmill, the daily dusting of the editor's throne, and all the other little jobs, such as putting a magazine together. Give me a break. Better still, give me all your pokes, tips, cheats and maps, unless you want a visit from Jake, Buttercup's two-ton boyfriend. You have been warned.
Here's the address:

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Some of our recent Power series have concerned themselves with submitting games or other programs to reputable software houses, with a view to getting said programs released commercially. In particular I dealt in detail with the saga of the game Scapeghost, now successfully published by Level 9.

But readers may care to know of the events that happened after the release of that game. It's the kind of situation that might occur to a number of CCI followers, and might, indeed, inspire a few more to think very carefully about the future way in which the 64 is headed. Our story begins!

In the January 1990 issue of that trusty and reliable fanzine Adventure Probe there was an excellent article by Paul Rigby entitled Level 9 - Leaving The Sinking Ship? This looked into the decision by Level 9 to abandon text/graphics adventures, and indeed to desert the 8 bit market altogether. Concerning that decision by Level 9, all I can do is to paraphrase a wiser man than I and say that I do not agree with it at all, but I do defend their right to make it. It's their business after all, not ours, however much we might want them to carry on producing "traditional" adventures containing vast reams of text and lots of knotty puzzles for us all to ponder over.

Level 9 claim that they're moving on because they're not making enough money, or not selling enough copies of their recent games, I suppose. Perhaps if they'd advertised them (have YOU seen an advertisement for their last two games in any of the magazines?) instead of leaving everything to people like Andy Moss and the old faithful "word of mouth" then they might have sold more. But I digress.

In his article Paul Rigby mentioned their last "traditional" adventure, the game we all now know to be called Scapeghost. That's its third title, by the way, as it was originally going to be called Things That Go Bump In The Night, which then changed into Spook, before Scapeghost got the final vote. As Paul points out, "Scapeghost would probably have never appeared if it had not been for Pete Gerrard and Sandra Sharkey". Who am I to argue?!

> ***"Our original game design (the total idea, as opposed to just the idea of having an adventure game with you playing the part of a ghost) was turned down."***

That statement is indeed true, and Level 9 accepted our concept in a letter dated 6th August 1988. Didn't the game take a long time to appear? Our original game design (the total idea, as opposed to just the idea of having an adventure game with you playing the part of a ghost) was turned down, and according to the letter of acceptance "You may produce another game based on the original (idea), provided it is not launched until 9 months after Spook (now Scapeghost) (planned for Feb 89) and avoids borrowing new ideas from it".

This introduces a tricky point. That original idea lives on in a disk file or five somewhere, and by the terms of acceptance cannot be used until later on this year. There is nothing to stop people using the concept, however, whereby you can easily come up with an idea for an adventure game with the ghost as a hero (the point of this article: get thinking!). If Level 9 objected to another game with that theme of ghost as hero, then they don't really have a leg to stand on, as that well known saying has it. I refuse to believe that you can have a copyright on ghosts! Would they also prevent people producing games with gnomes in them? Their first ever game was a copy of the original Colossal Cave, let's not forget, and Dungeon Adventure also had more than a nod in the general direction of Colossal. Lancelot was hardly an original theme, so would they sue Infocom (apologies to all Infocom fans, and The Grue in particular) for producing Arthur? I doubt it, and after all they don't intend releasing any more games of this type themselves, so, with all that in mind ...

A while ago I was involved in proving Gerrard's 4th Law Of Computing: if a file exists on any one of a possible twenty disks, it will be found on the twentieth disk that you look at. In the course of this search, though, I spent a happy half hour or so reading through old, forgotten files, things which, for one reason or another, never saw the light of day. One such file was the idea for the follow-up to Scapeghost, which was sent off to Level 9 in a letter originally dated 24th April 1989, but which was actually posted a couple of days later than that.

Level 9 never acknowledged receipt of the letter, so the idea still belongs to Sandra Sharkey and I. I doubt whether we will ever get around to doing anything about it, but there are a lot of talented programmers who read Commodore Computing International who just might be interested in doing something themselves. Names will need to be changed, because we used some of the ghosts from Scapeghost, but what it all boils down to is an idea for a text/

graphics adventure with a ghost as the hero, a concept that not even Pete Austin can argue with. So with our noble editor's permission, and inspired by Paul Rigby's article, this is what Level 9 couldn't be bothered replying to. Someone just might like to convert it into an adventure!

Please note, before reading on, that I haven't changed a single word of this, and that it all remains exactly as it was when it was first sent to Level 9. So now, read on!

> ***"There are a lot of talented programmers who read Commodore Computing International who just might be interested in doing something themselves."***

Stage Fright

A possible sequel to Scapeghost: While helping to playtest Scapeghost we've both been so impressed by the game that it seemed a shame to end things with just the one ghostly adventure involving Alan Chance and some of his new-found chums. We're sure that the game is going to do very well, so a sequel seems to be an obvious choice for a future Level 9 release.

While hovering at peace in the spirit world you were surprised to find a familiar voice ringing in your ears. "Well now, you new ghosts are all the same. Solve one little problem and you think your work's done." A cheery laugh followed, and you identified the ghost of Joe Danby, your friend and ally in the investigation of the drug-smuggling ring. "Better come along with me" continued Joe, "things have been happening while you've been gallivantin' around up here. Come on." With a reluctant sigh you turned to face Joe. "That's death" you thought, echoing one of Joe's own 'graveyard humour' jokes.

Some time later you were floating above your own grave in the cemetery, watching a quarter-Moon as it rose over the eastern wall in early evening. The light wasn't strong, and you felt at ease with it.

Or something along those lines anyway, as long as Joe Danby is the one to bring you back. Let game players know he's still around.

Our first thought was to find the secret laboratory where all the drugs where being made and bring the makers to justice, but that's a bit too similar to Scapeghost itself. A second idea was to have property developers threatening to demolish the cemetery, but Ingrid's Back! has much the same sort of theme, and so that was ruled out as well. Then came the idea that gave us the title of Stage Fright ...

Through a little spot of judicious haunting, Joe Danby had discovered that a famous film director was planning to use the cemetery for part of a horror film that he was making. "It'll destroy the sanctity of the graves!" spluttered the Colonel when Joe had told him, "get that Chance chappie back, he seemed a decent enough egg, see if he can't sort the bounders out, throw 'em off the premises, what?"

Some of the old ghosts would still be there (Joe, the Colonel, David Ridge - see later for him) but most of the others would have shuffled off, leaving scope for the introduction of more new characters. If any of the other oldies were to be retained they could always refuse to help on the grounds that "it was all a little bit too exciting last time." You have instantly agreed to help Joe, of course, so part one would deal with David Ridge. You see, being a vain sort of spirit he wants to appear in the film as well, so while the company begins setting itself up with props and scenery and installing caravans just outside the cemetery for the film's leading men and women, you have somehow got to persuade Ridge to work from within the film company but on your side (i.e. attempting to

continued from page 59

halt production of the film and send them packing) rather than by trying to get a role in the film for himself. Once you've achieved this, you can progress to part two.

This would be to delay filming for a day (or night, rather, being a horror film it would all be done at night), perhaps by frightening off the main star of the film, to give your ghostly powers time to grow a little.

Perhaps progress these powers to the point of being able to read minds in some sort of vague way. "You sense fear in the director's mind, but you cannot detect why." - emotions and such-like, rather than exact thoughts, so that you can discover warnings and hints but no direct clues.

Then you could get to the third and main part of the game, which would be to frighten off the film company altogether and restore peace and quiet to the cemetery once more.

We would imagine that the film director would have a great deal in common with Ken Russell, he seems the right sort of chap somehow. Don't know what the film might be called ... a re-make of The Thing From Beyond The Grave perchance? "The thing from beyond the grave?!" thundered the Colonel, "has the world gone mad?" You could tell that he was not amused.

You've got plenty of scope for ghost/human interaction, as well as ghost/ghost and human/human, when you think of the cemetery ghosts and the film crew and film stars. Cameras on wheels that go in the wrong direction under the influence of several ghosts, film that gets accidentally developed (which would be an interesting problem in its own right), microphones that fail and sets that collapse, real ghosts and special effects' ghosts battling it out, the star literally getting stage fright (a ghost having to appear every time she starts to speak?), mysterious events in the star's caravan (which you'd have to get into, by-passing the security guards along the way), lights going on and off and other peculiar happenings, all that sort of thing. People seem to like the humour of Ingrid's Back! from the reviews that we've seen, so they should also appreciate many of the scenes that could be incorporated into Stage Fright.

We think people would love to play a follow-up to Scapeghost. We would! What do you think? Are we in with the ghost of A. Chance?

END OF SCENARIO AS SENT TO LEVEL 9

Bearing in mind that names would have to be changed, that Level 9 aren't producing any more games of this type, and that they've deserted the 8 bit market that put them in the position where they CAN desert it, would anyone like to play a traditional text (and, oh all right, graphics!) adventure based on this kind of scenario? In other words, a game where you are a ghost and you have to prevent a horror film being made in your own cemetery?

If anyone would like to play it, this then begs the next question of "would anyone like to write it?"

We're open to suggestions! I'm sure CCI would be happy to pass on the more serious and less rude ones (we really do want to see a decent game from a reputable person or persons at the end of it), so between us all let's keep the 8 bit market going, eh? I know just from reading the wit and wisdom of Andy Moss that there are many adventure programmers knocking around out there who are not tied in to any big company, and who might well be prepared to take on something of this sort.

And if Level 9 object morally rather than legally? They've deserted a far from sinking ship, so if they can find a taxidermist willing to take on the job they can go and ... and I'm sure you can finish that sentence for yourselves. No offence to Level 9, I thought we got on very well together, but it was their decision to abandon the field, not ours, and the ghost idea lives on.

More Power to traditional adventures!

P.G.

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Snapshot Version 5

LMS Technologies

Tony Horgan tests a newly-arrived cartridge from the USA

Although I've been inseparable from my Action Replay cartridge for the past three years, I'd never heard of the similar Snapshot cartridge from LMS Technologies. I was pleasantly surprised to find that the latest upgrade is a strong rival to Datel's little red box.

> ***"Sprite collision detection can be disabled and re-enabled, and there are functions for altering single bytes."***

Because the software in the cartridge is all stored on its own ROM, it uses none of the computer's memory. That means you can interrupt a program at any time, and examine or alter the code. This gives rise to the Snapshot's two key features: the machine code monitor and the backup tool.

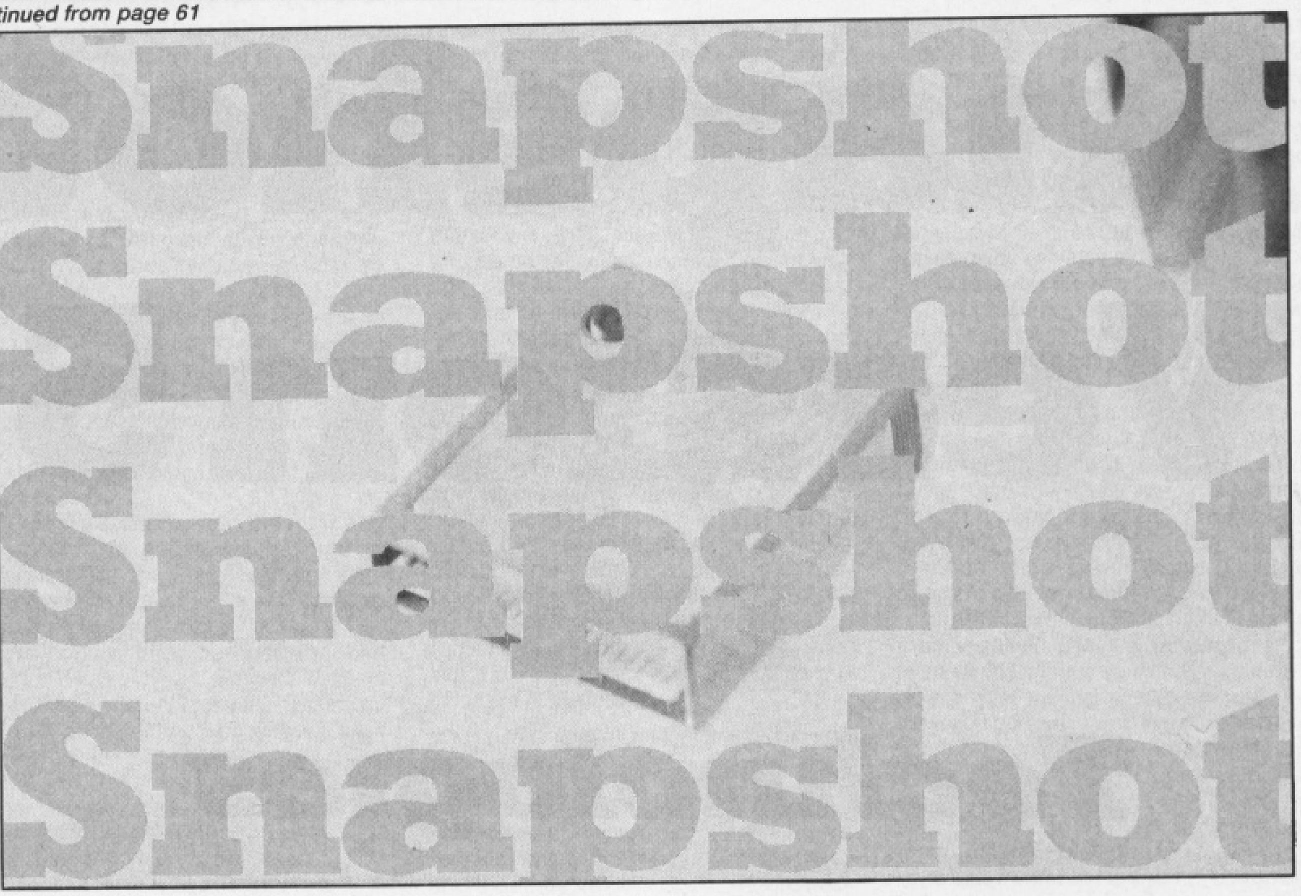
The Backup feature works in much the same way as the Action Replay and Expert cartridges. On power-up you're presented with a number of options. The first of these sets up the memory in preparation for a backup. By formatting the memory before loading the program, the backup can be compressed into a smaller file. As some programs check for this as an anti-cartridge protection routine, you can opt to switch out the cartridge, making it undetectable by software. Once you've loaded your program, you can then switch control to the cartridge. Unfortunately, although the program can be loaded from either tape or disk, the Snapshot only allows you to save to disk. If the cartridge cannot compress the program to less than 202 blocks, it asks if you want it saved as one or two files. Saved as a single file, you'll only be able to re-load it with the cartridge installed.

The monitor is rather more up-to-date. The whole memory can be viewed as bytes, instructions or Ascii codes. All the usual commands are there, including assemble, disassemble, fill and hunt. Sprite collision detection can be disabled and re-enabled, and there are functions for altering single bytes, hex to decimal conversions, and displaying the registers as they were when you stopped the program.

> ***"The sprite, sample and character set monitors are all useful additions, and the disk utilities and fast loader are very handy."***

Those are the Snapshot's two star attractions, but you also get a load of other handy features. The sprite monitor is very similar to

continued from page 61



that of Action Replay. It allows you to cycle through the memory, which is interpreted on screen as sprites. You can swap from hi-res to multi-colour mode, but strangely in muti-colour mode, the sprites are only displayed in three colours rather than four. It also lacks the flip, delete and mirror functions found in Action Replay. However, any sprites you find can be saved to disk, and later modified in the sprite editor, before being re-loaded into the game.

A sample monitor is also on the menu. Like the sprite monitor, it scans the memory, playing it all back as samples. Most of the memory will usually be graphics data and program code, so you have to listen carefully for any samples nestling among the white noise. Once you've found a sound, it can be reversed, speeded up or slowed down, or played back as a 1-bit, 4-bit or 8-bit sample. By specifying the start and end addresses of the sound, you can isolate and then save out the sample. This could be loaded into another program, or used with the sample player program on the accompanying disk. Because of the various techniques of storing samples on the 64, you'll not have a 100% success rate. I managed to pull off samples from Turbo Outrun, Robocop and Ash and Dave's Humanoid acid demo, although the speech and screams of Impossible Mission II were out of reach. The sample monitor is a fun feature, only let down by the awkward software on the system disk.

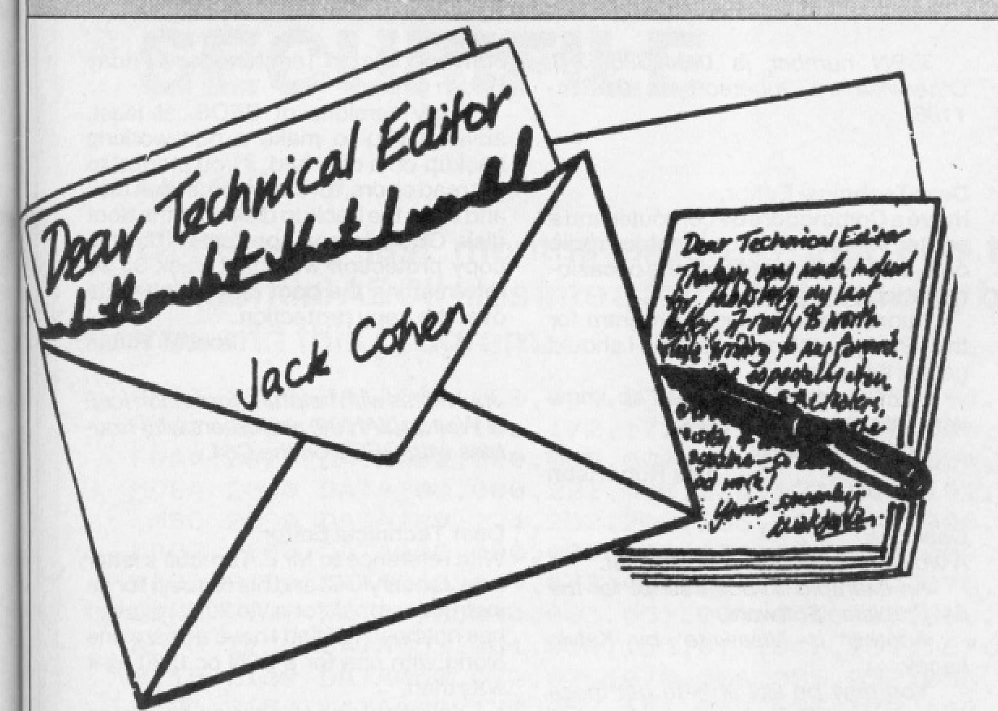
Gamers should take note of the infinite lives generator. It won't always work, but when it does, it's pretty handy. There's also a sprite collision detection killer. As most programmers use their own collision detection routines these days, you'll find that it works best with the older games. If you feel the need to swap the joystick ports round, or fancy a spot of autofire, you can have those too.

Game screens can be sent to disk or printer through the screen grabber. I was surprised to find it makes an attempt to grab the sprites along with the bitmapped graphics. Raster splits and the like cause problems with grabbing moving game screens, which often lose a few sprites and come out with corrupt score panels. Static graphics, such as title screens, lead to far better results.

Snapshot has a lot going for it. The copier works well, as does the machine code monitor. The sprite, sample and character set monitors are all useful additions, and the disk utilities and fast loader are very handy. The ommission of any features for tape users is a shame, not to mention a strange move from FSSL, as it cuts out a great chunk of their potential customers. Given the choice, I'd go for Datel's Action Replay rather than Snapshot, for its more user-friendly system, and more highly developed utilities. However, which cartridge you choose is very much a matter of personal taste, you may well prefer the Snapshot. Try them both if possible. Which ever one you choose, you'll get a lot of cartridge for your money.

T.H.

Price: £34.95. Contact: FSSL, Mason's Ryde, Defford Road, Pershore, WR10 1AZ. Tel: 0386 553153.



Dear Technical Editor,
Please could you help me, as I have been looking for a book called Commodore 64 Programmers Reference Guide. But had no luck in finding it.

If you know where I could get a copy from, please could you send me the address and telephone number plus the price.

Yours Faithfully,

Chris Cooper

Dear Chris,
The Commodore 64 Programmers Reference Guide UK edition has an ISBN number of 0-672-22056-3.

Quote this number to your local bookshop so they can see if any copies are still available.

The original price was £9.95.

As an alternative try Programming the 64 by Rae West. ISBN number is 0-9507650-2-3.

Dear Technical Editor,
My machine is a 3 year old Commodore PLus 4 and last year I added a disc drive and printer. The printer is a Commodore MPS1230 which I find quite satisfactory for my purpose.

As I had a stock of single sheet paper I have only used it in the single sheet mode but I have now fitted the tractor feed and using continuous stationary but I have come across a major snag namely I cannot seem to get it to print more than one page at a time and wonder if it is a fault on the printer or my Plus 4's word processor, e.g. If I enter the instruction NEXTPAGE as per instructions in the manual printing starts OK but stops at the Nextpage instruction and will not start again.

My question is:- How do I get it to start printing again on the next page?

Also do you know of any other Word Processor on Disc for the Plus 4 that I could use?

Yours Faithfully,

A.W. Card

Dear A W Card,
Turn on reverse mode by pressing CONTROL and the '9' key.

nextpage must be typed in lower case and should be terminated with a semi-colon (;) unless other commands follow. (in which case use : to seperate commands)

Then turn off reverse mode by pressing CONTROL and the '0' key.

nextpage is not used for multiple pages but rather to force the printer to start a new page from the position in the text at which nextpage is entered.

It will not repeat the same page, so if you only have one page of text with nextpage at the end of the text, then there is nothing to print.

The command pagepause stops the printout at the end of every page.

Printing resumes when RETURN is pressed.

SCRIPT PLUS was produced for the PLUS 4 as an improvement on the built in WP.

Try Supersoft on 01-861-1166 who may still have a copy on their shelves.

Dear Technical Editor,
In the October issue of the CCI, you published a program 'Basic Aid' by Nick Webb (pages 88-93) which was to be continued next month. The program was, in fact, continued on page 84 of the November issue of CCI. But if you look at the top of the page 84 (November issue), you will find that the line 210 is missing.

I was expecting that the error will be detected by CCI and the missing line will be published in some next issues (as you sometimes do... in the space above the S-Entry). It seems that the error has not been detected by you yet (February 1990 issue).

I was wondering whether you could possjbly supply the missing line 210 (in the stamped SAE enclosed) and publish the error in the CCI as well... if you think appropriate.

Thanking you,

Dr. S Ghosh

Dear Dr S Ghosh,
The missing line is printed elsewhere in this issue with our apologies to you and others who reported the error.

Dear Technical Editor,
I have typed Peter Gerrard's "Golf Patience" on page 37 from February's 1990 of CCI, and I am having problems.

On lines 220, 240, 250 there are print commands and I don't understand them, and I don't know what keys to type i.e.:-
PRINT ″ â»F1;;

Please can you explain? Also when I type line 410 I get a syntax error.

Also when I press return to select on my C64 nothing happens.

Please can you help me with these problems.

Yours sincerely,

D. Meleady

Dear D Meleady,
Place a closing double quotes (″) after 'F1' in lines 220, 240 and 250.

Type opening quotes (″) then press cursor right key then type 'F1' then type closing speech marks (″). Ignore the brackets and single quote above.

Line 410

PRINT CLS is short for doing the following.

Type PRINT then opening quotes then press SHIFT and CLEAR together then closing quotes followed by a semi-colon and the rest of the line.

Other points are:-

Are you typing a '$' dollar sign or a letter 'S'.

If an 'S' then you will get a syntax error message.

For example in line 211 'ROF$' not ROFS.

Check your listing carefully against the printed version.

Do not forget control characters are difficult for magasine printers to make legible, so that alternative characters are used which cannot be typed into your program, but are used to indicate which control characters should be used instead.

Examples are CR meaning press the cursor right key and CLR meaning press SHIFT and CLR at that point in the *entering of the program.*

When these keys are pressed after opening double quotes, then instead of actually moving the cursor, a graphic character is seen instead.

This graphic character acts as a control character in positioning the text on the screen or clearing the screen and so on.

Dear Sir,
This is not a 'Dear Technical Editor' - it's more of a 'Dear Information Dept' plea.

I own a Commodore 64. I would like to access Prestel via a modem. I have a modem which I used when I owned a Plus 4 - The modem is an Emis Datatech Prism modem 2000. But I need a software package to run it.

Have you any idea where I might get one.

Thanks in advance for your assistance,

Yours Faithfully,

Peter D. Healy

Dear Peter,
If there is software for this modem on the 64 then the people to ask about it are Y2 Computing Ltd of St.Albans Road, Watford, Herts.

Phone 0923-50161

Dear Technical Editor,
Could you please tell me how to program a VIC 20 for a joystick. I am writing my own games but I have to use keyboard control which is sometimes too cumbersome.

I do not have an owners manual for the VIC 20, are they still available, if so, where from?

Yours Hopefully,

J. A. Jackson

Dear J A Jackson,
You have not said whether you write in BASIC or machine code.

However to give you some idea and information as to what is required, I list the following routine.

This tests for 4 directions and in place of (WEST) (SOUTH) etc put your own routine for screen movement and splats etc.

```
1000 P=PEEK(37151): IF (P AND 32)=0
THEN GOTO 'FIRE BUTTON ROUTINE'
1010 IF (P AND 16)=0 THEN GOTO
'WEST'
1020 IF (P AND 8) =0 THEN GOTO
'SOUTH'
1030 IF (P AND 4) =0 THEN GOTO
'NORTH'
1040    POKE    37154,127:P=
PEEK(37152):POKE 37154,255
1050 IF (P AND 128)=0 THEN GOTO
'EAST'
```

If you can still obtain a copy of PROGRAMMING THE VIC (Raeto West) then this will help considerably.

ISBN number is 0-942386-52-3. Otherwise try Supersoft on 01-861-1166.

Dear Technical Editor,
I have a Commodore 64 computer and a printer which I use for amateur radio only, but I now wish to type the occasional letter.

I understand I need a program for this. Can you tell me what one I should get for this purpose.

I am a retired pensioner so know very little about these uses.

Yours Faithfully,

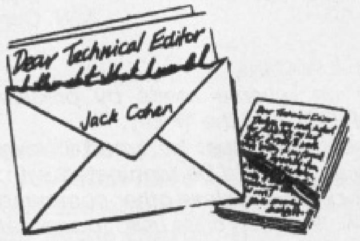
Les Robertson

Dear Les,
A wordprocessor program is best.

An example is 'Superscript for the 64' Precision Software.

Another is 'Visawrite' by Kelvin Lacey.

You may be still able to get these from such as Supersoft (see above) or your local computer shop. (if they still have stock).



Dear Technical Editor,
Here are some addresses for the manufacturer of GEOS:

Berkely Softworks Inc.
2150 Shattuck Ave.
Berkeley, CA94704
USA

Berkeley Softworks
B.P.622
57010 Metz Cedex
France

This was on a registration card in International Fontpack which, unfortunately, refers to European Latin-alphabet languages such as German and British English rather than say Hebrew, Arabic, Japanese Kanji, Russian et alia.

Berkeley Softworks Fulfillment Centre
5334 Sterling Centre Dr.
Westlake Village, CA91361
USA
(To order products)

The Berkeley phone number is +1 415 644 0890 (ITU phone number format - precede with 010 from the UK) and Berkeley is 8 hours behind the UK so they are open something like 5pm to 8pm and 9pm to 1am Monday - Friday British time.

Early versions of GEOS, at least, advised you to make a non-working backup on a disk and, if you started to get read errors, to reformat the boot disk and copy the backup disk onto the boot disk. GEOS is copy protected but the copy protection was past track 35 so reformatting the boot disk didn't write over the copy protection.

Joel M. Rubin

Joel writes with helpful information for E G Walton (JAN 90) and others with troubles with GEOS on the C64.

Dear Technical Editor,
With reference to Mr L. Turnbull's letter in te January CCI and his request for an instruction book for a Vic 20. If his need has not been fulfilled I have a spare one along with one for a C2N or 1530 as it was then.

You may wish to pass on my phone no. to him, as I may be able to help with some of my programs.

Yours,

D.M. Noyes

This reader offers a VIC 20 instruction book to L Turnbull (JAN 90)

If Mr Turnbull rings CCI for Mr Noyes phone number.

Dear Readers,
We know you've got news and views. We know you've got ideas and opinions. We know you've got gripes and criticisms.

So why not let everyone know?

Send us your thoughts (printable ones please!) and we'll include them on our letters page.

Write to us at 40 Bowling Green Lane London EC1R ONE - SOON!

Yours,

C.C.I.

SECURIFILE

By P.A. Croton

Continuing last months program that can turn your sequential ASCII files into a form that can only be read by you and this program.

```
GMII 2050 DATA000,003,013,031,042,056,073,094,0312
NJCJ 2060 DATA119,166,172,172,172,000,000,000,0801
FGAP 2070 DATA000,000,000,000,048,000,128,000,0176
MDEA 2080 DATA200,000,222,000,236,128,244,192,1222
LMBC 2090 DATA249,224,252,208,255,000,000,000,1188
DDOO 2100 DATA000,000,000,032,034,058,069,000,0193
NAGJ 2110 DATA065,049,073,084,036,079,082,078,0546
BENM 2120 DATA178,044,083,051,089,048,067,068,0628
ADPG 2130 DATA053,041,054,153,017,040,139,167,0664
GIIB 2140 DATA050,072,076,070,066,085,052,056,0527
BJPG 2150 DATA080,170,057,151,059,075,179,177,0948
AFOJ 2160 DATA161,033,199,071,087,019,055,077,0702
NFOL 2170 DATA137,021,141,160,012,147,159,194,0971
OFPL 2180 DATA175,088,152,243,008,009,016,018,0709
OIPI 2190 DATA046,086,129,171,015,020,130,142,0739
LJNH 2200 DATA164,011,022,045,133,158,172,173,0878
MPNF 2210 DATA181,200,004,010,023,035,090,146,0689
KBEB 2220 DATA166,198,005,013,014,039,063,097,0595
NCPD 2230 DATA105,114,126,127,128,132,135,144,1011
AFJJ 2240 DATA145,149,150,221,236,003,006,007,0917
OIBG 2250 DATA024,027,029,042,064,074,081,091,0432
JFNE 2260 DATA095,096,099,100,101,102,106,108,0807
GEFA 2270 DATA110,111,113,115,116,117,118,119,0919
BIPA 2280 DATA120,121,122,123,136,138,140,143,1043
NFLG 2290 DATA148,154,162,174,183,185,186,187,1379
EINM 2300 DATA193,195,196,197,201,202,204,211,1599
FPFG 2310 DATA215,222,225,235,242,248,251,251,1889
ELPK 2320 DATA222,019,159,110,153,116,195,132,1106
PEMA 2330 DATA122,011,111,062,204,033,078,200,0821
NCAO 2340 DATA202,177,237,120,061,032,136,211,1176
PDEI 2350 DATA103,114,178,171,033,132,171,027,0929
DHDN 2360 DATA053,100,050,034,048,025,235,051,0596
HEEF 2370 DATA129,015,005,078,103,173,089,085,0677
ADEK 2380 DATA050,022,166,190,223,103,068,179,1001
DJCN 2390 DATA098,135,069,072,146,167,100,003,0790
PIMB 2400 DATA224,180,004,178,064,147,252,222,1271
FDAK 2410 DATA031,128,245,143,055,131,224,176,1133
HICM 2420 DATA119,042,118,031,252,060,063,060,0745
DIPI 2430 DATA252,040,097,092,134,064,035,125,0839
MFCF 2440 DATA007,255,247,135,241,158,228,050,1321
HOPN 2450 DATA014,059,083,029,061,213,078,205,0742
EOCK 2460 DATA254,001,240,090,003,122,099,063,0872
GNNK 2470 DATA135,197,249,015,114,025,007,029,0771
AJAE 2480 DATA169,142,155,232,061,030,047,009,0845
EKCC 2490 DATA238,067,032,227,183,009,105,238,1099
PNBL 2500 DATA228,224,077,249,032,201,232,073,1316
FDJF 2510 DATA042,118,064,032,058,253,251,085,0903
BHEE 2520 DATA059,033,143,101,037,211,160,241,0985
EAPC 2530 DATA120,188,071,187,036,009,189,083,0883
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CKLI 2550 DATA078,180,048,186,083,129,254,175,1133
DOEC 2560 DATA139,225,058,167,100,031,241,106,1067
POKK 2570 DATA167,100,057,061,009,167,090,024,0675
JBDI 2580 DATA127,232,241,122,231,187,253,109,1502
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OKIC 2620 DATA105,043,178,111,232,077,250,015,1011
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CEAC 2710 DATA150,104,224,247,173,238,091,086,1313
EFHG 2720 DATA148,211,238,166,170,075,053,016,1077
MPPO 2730 DATA123,214,247,045,171,078,020,251,1149
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OELP 2750 DATA114,218,180,199,079,186,154,169,1299
FKLG 2760 DATA044,216,065,220,182,173,050,211,1161
ELDI 2770 DATA232,183,050,125,196,213,073,102,1174
DKCO 2780 DATA209,007,114,218,180,166,159,069,1122
ICEA 2790 DATA185,163,247,019,085,037,154,168,1058
LOPH 2800 DATA059,150,213,167,010,125,022,230,0976
PIMG 2810 DATA163,220,077,084,150,109,048,119,0970
BEEP 2820 DATA045,171,076,116,250,045,205,207,1115
KDAP 2830 DATA238,038,170,075,051,032,227,183,1014
DMJE 2840 DATA050,117,213,069,037,153,144,102,0885
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ILHP 3110 DATA015,207,209,152,206,004,251,058,1102
CBEF 3120 DATA001,109,014,132,111,024,036,110,0537
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OHBK 3150 DATA001,027,244,074,127,255,250,244,1222
DMND 3160 DATA158,228,051,127,128,082,061,212,1047
HCPI 3170 DATA051,127,128,112,030,234,025,191,0898
NAHA 3180 DATA192,049,143,117,012,223,224,029,0989
EJNI 3190 DATA003,126,137,079,250,157,159,207,1118
MCEI 3200 DATA061,099,100,141,206,024,163,204,0998
OMNE 3210 DATA096,136,217,013,050,205,056,055,0828
KALJ 3220 DATA082,212,215,128,238,067,010,177,1129
GMCN 3230 DATA179,086,067,034,035,006,167,026,0600
MJCD 3240 DATA040,130,064,086,080,094,042,136,0672
IMOC 3250 DATA021,016,076,215,056,211,044,026,0665
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OIGE 3270 DATA227,072,010,202,015,106,252,162,1046
NHAK 3280 DATA127,222,236,194,126,025,152,087,1169
HMIA 3290 DATA076,200,004,111,209,160,254,126,1140
FJFH 3300 DATA207,178,123,166,102,255,000,200,1231
DAKK 3310 DATA055,199,025,254,255,103,202,116,1209
FAIJ 3320 DATA065,254,246,161,148,149,200,131,1354
BADN 3330 DATA069,233,163,073,255,187,179,041,1200
KOOM 3340 DATA238,068,009,190,132,159,251,251,1298
ONEH 3350 DATA041,061,200,131,011,246,074,127,0891
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NAAD 3390 DATA024,075,173,058,035,043,178,169,0755
FDAO 3400 DATA144,008,222,157,026,079,251,191,1078
OIAF 3410 DATA066,163,251,067,102,172,134,068,1023
NHGE 3420 DATA070,003,061,102,112,047,019,003,0417
MHOD 3430 DATA209,208,096,110,080,094,038,006,0841
GNLI 3440 DATA230,253,019,076,176,202,172,134,1262
GMMA 3450 DATA178,211,062,103,073,169,102,156,1054
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KCEP 3470 DATA101,193,144,123,246,229,193,144,1373
OAJB 3480 DATA166,170,074,236,184,050,012,170,1062
LLIB 3490 DATA101,245,141,138,088,076,135,253,1177
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FPHA 3520 DATA221,049,131,042,178,027,136,075,0859
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FKAK 3550 DATA226,133,132,141,206,028,170,201,1237
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AECO 3700 DATA055,056,076,221,082,002,150,013,0655
OBNO 3710 DATA122,218,008,123,087,137,156,039,0890
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NLDM 3730 DATA111,002,031,056,078,104,150,230,0762
EALC 3740 DATA200,003,187,042,153,184,124,162,1055
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PJIJ 4010 DATA092,134,124,198,226,226,226,018,1244
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AECG 4030 DATA133,047,193,243,252,182,088,037,1175
EANO 4040 DATA182,173,137,134,082,153,176,074,1111
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MJKJ 4130 DATA148,174,051,160,077,233,162,051,1056
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GAPE 4150 DATA152,087,068,187,244,243,159,183,1323
MEIC 4160 DATA227,113,246,213,178,088,126,117,1308
MBHG 4170 DATA179,050,146,246,244,108,161,050,1184
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PJGI 5340 DATA114,025,000,141,233,151,073,254,0991
KIOB 5350 DATA167,085,199,185,012,128,123,195,1094
BOJN 5360 DATA122,112,148,255,193,213,253,071,1367
OBIK 5370 DATA185,012,223,224,227,181,049,211,1312
DEKO 5380 DATA122,099,160,255,111,171,172,252,1342
LEBB 5390 DATA040,097,092,134,064,035,122,116,0700
HJIG 5400 DATA036,255,115,171,213,063,074,099,1026
NECG 5410 DATA160,255,229,213,253,103,172,108,1493
IGGD 5420 DATA157,161,035,115,134,243,219,202,1266
CDOO 5430 DATA011,196,193,149,089,012,244,116,1010
OIMM 5440 DATA024,045,144,026,224,125,034,127,0749
BHBD 5450 DATA252,234,251,135,225,067,010,228,1402
JDKE 5460 DATA051,127,128,100,030,234,025,191,0886
GLNI 5470 DATA192,047,027,211,163,065,255,015,0975
PKKH 5480 DATA087,221,061,200,100,002,241,191,1103
```

```
GOIL 5490 DATA042,153,000,137,122,167,031,099,0751
FOHK 5500 DATA229,063,180,054,106,200,100,068,1000
DNKB 5510 DATA096,051,214,103,002,241,048,101,0856
LFEL 5520 DATA086,067,061,029,006,029,217,084,0579
KKCO 5530 DATA194,202,166,065,239,219,149,076,1310
MKOC 5540 DATA133,053,082,094,169,254,191,177,1153
GAKE 5550 DATA253,135,172,123,074,008,179,242,1186
NJIE 5560 DATA114,026,037,130,241,066,194,070,0878
FHFI 5570 DATA231,007,025,121,220,240,091,067,1002
EHAO 5580 DATA050,034,084,193,202,165,227,096,1051
MFEO 5590 DATA055,082,212,215,134,128,067,231,1124
OHBC 5600 DATA009,212,224,094,038,009,213,022,0821
CEHD 5610 DATA247,016,151,157,080,039,214,194,1098
BPHI 5620 DATA137,101,047,080,186,099,140,253,1043
MDNC 5630 DATA143,099,239,159,237,038,136,123,1174
AOLB 5640 DATA208,153,204,135,228,135,228,035,1326
NFLD 5650 DATA058,009,074,238,246,255,004,183,1067
JLIO 5660 DATA153,208,036,255,055,177,223,063,1170
HKDI 5670 DATA170,127,015,197,089,235,030,212,1075
KHNP 5680 DATA234,139,120,017,050,213,230,082,1085
DGGE 5690 DATA228,005,153,221,010,122,022,105,0866
PHKJ 5700 DATA248,132,171,027,012,231,053,192,1066
LGED 5710 DATA059,140,230,021,099,102,040,136,0827
AOLE 5720 DATA027,052,217,220,227,079,197,196,1215
JMPD 5730 DATA037,216,192,187,017,151,097,052,0949
HNLE 5740 DATA023,099,065,121,213,002,125,108,0756
DKEP 5750 DATA040,150,082,245,020,093,049,198,0877
MGIA 5760 DATA127,167,241,123,103,172,123,086,1142
LEMP 5770 DATA089,020,145,104,217,162,092,057,0886
NNFG 5780 DATA135,113,109,231,217,132,060,233,1230
LOHL 5790 DATA045,186,101,211,014,017,243,150,0967
JBIB 5800 DATA212,236,211,010,075,109,081,166,1100
OMGB 5810 DATA020,198,095,100,255,123,226,225,1242
KIIH 5820 DATA062,218,163,076,058,099,045,181,0902
KDNF 5830 DATA071,132,041,193,037,182,168,227,1051
KLGF 5840 DATA134,140,011,109,081,232,134,142,0983
LJHE 5850 DATA114,219,084,116,067,068,101,182,0951
BAGG 5860 DATA168,234,134,136,203,109,081,243,1308
OCFE 5870 DATA195,069,069,182,168,244,195,070,1192
LGKD 5880 DATA146,219,084,123,033,076,101,181,0963
CPJP 5890 DATA059,052,195,176,189,083,156,224,1134
MNOA 5900 DATA073,000,144,079,084,000,000,064,0444
FKAD 5910 DATA045,192,033,064,037,000,045,064,0480
HNCD 5920 DATA045,064,045,064,037,064,045,064,0428
JMOK 5930 DATA033,064,033,068,032,000,255,000,0485
S-ENTRY CODE = HCGI
```

SPOOK MAZE

Machine C16 and Plus 4
by Andrew Walker, Age 11

Spook maze is a simple but enjoyable game.

```
10 COLOR 0,1:COLOR 4,1
20 SCNCLR
30 A=0
40 POKE 55,0
```

continued on page 73

```
50 POKE 56.60
60 CLR
70 POKE 1177,62
80 FOR N=0 TO 1023
90 POKE 60*256+N.PEEK(53248+N)
100 NEXT N
110 POKE 1177,63
120 POKE 65299,60
130 POKE 65298,192
140 READ N
150 IF N=999 THEN 190
160 POKE A+15368.N
170 A=A+1
180 GOTO 140
190 DATA 28.42.119,34.28,8.16.8
200 DATA 36.126,90,255,231,126,102,36
210 DATA 36.126.255.126.126.255.126.36
220 DATA 255,129,189,161,185,161,189,255
230 DATA 999
240 PRINT"[CLR][PUR]";
260 PRINT"[SP4]CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC"
270 PRINT"[SP4]CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC"
280 PRINT"[SP4]CC C[SP7]C[SP9]C[SP9]CC"
290 PRINT"[SP4]CC C CCCCC[SP3]CCCCCCC C CCCCCCC CC"
300 PRINT"[SP4]CC C C[SP3]CCCCC[SP5]C C C[SP3]C C CC"
310 PRINT"[SP4]CC C C C C[SP3]C C C C[SP3]C[SP3]C C CC"
320 PRINT"[SP4]CC C C C C[SP3]C C C CCCCC[SP3]C C CC"
330 PRINT"[SP4]CC[SP3]C C C[SP3]C C C[SP3]C[SP5]C C CC"
340 PRINT"[SP4]CCCCCC C C[SP3]C C CCCCC CCC C[SP3]CC"
350 PRINT"[SP4]CC[SP5]C C[SP5]C[SP5]C[SP3]C CCC CC"
360 PRINT"[SP4]CC[SP5]C C[SP4]CCCCCC C[SP3]C[SP3]C CC"
370 PRINT"[SP4]CC[SP5]C C[SP4]C[SP6]C[SP3]CCC C CC"
380 PRINT"[SP4]CC[SP4]CC C[SP4]C CCCCCCCC[SP3]C C CC"
390 PRINT"[SP4]CC[SP4]C[SP2]C[SP4]C C[SP6]CCC C[SP3]CC"
400 PRINT"[SP4]CC[SP2]CCC CCCCC C C[SP8]C CCCCCC"
410 PRINT"[SP4]CC[SP2]C[SP3]C[SP3]C C C[SP8]C[SP5]CC"
420 PRINT"[SP4]CC[SP2]C[SP3]C C C C[SP8]CCCCC CC"
430 PRINT"[SP4]CC[SP2]C[SP3]C C C C[SP8]C[SP5]CC"
440 PRINT"[SP4]CC[SP2]C[SP3]C C C C[SP4]CCC C CCCCCC"
450 PRINT"[SP4]CC[SP2]C[SP3]C C C C[SP4]C[SP3]C[SP5]CC"
460 PRINT"[SP4]CC[SP2]C[SP3]C C C C[SP4]C[SP3]CCCCC CC"
470 PRINT"[SP4]CC[SP2]C[SP3]C C C C[SP4]C[SP9]CC"
480 PRINT"[SP4]CC[SP2]C[SP5]C[SP3]C[SP6]C[SP9]CC"
490 PRINT"[SP4]CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC"
500 PRINT"[SP4]CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC";
510 A=3158:C=3655
520 VOL 8
530 POKE 3958.4
540 FOR Z=1 TO 5:POKE A,2
550 OA=A
560 B=JOY(1)
570 IF B=1 AND PEEK(A-40)<>3 THEN A=A-40
580 IF B=5 AND PEEK(A+40)<>3 THEN A=A+40
590 IF B=7 AND PEEK(A-1)<>3 THEN A=A-1
600 IF B=3 AND PEEK(A+1)<>3 THEN A=A+1
610 IF OA<>A THEN POKE OA,32
620 IF B<>0 THEN SOUND 1,100,1
630 IF A=C THEN GOTO 760
640 IF A=3958 THEN GOTO 810
650 NEXT Z
```

```
660 IF OC<>CTHEN POKE OC,32:POKE C,1:OC=C
670 IF A+40<=C AND PEEK(C-40)<>3 THEN C=C-40
680 IF A+40<=C AND PEEK(C-40)=3 AND PEEK(C-80)<>3 THEN C=C-80
690 IF A-40>=C AND PEEK(C+40)<>3 THEN C=C+40
700 IF A-40>=C AND PEEK(C+40)=3 AND PEEK(C+80)<>3 THEN C=C+80
710 IF C<>OC THEN 540
720 IF A<C AND PEEK(C-1)<>3 THEN C=C-1
730 IF A>C AND PEEK(C+1)=3 AND PEEK(C+2)<>3 THEN C=C+2
740 IF A<C AND PEEK(C-1)=3 AND PEEK(C-2)<>3 THEN C=C-2
750 GOTO 540
760 SCNCLR
770 POKE 65299,208
780 POKE 65298,196
790 PRINT"THE GHOST GOT YOU"
800 GOTO 30
810 SCNCLR
820 POKE 65299,208
830 POKE 65298,196
840 PRINT"YOU ESCAPED FROM THE MAZE"
850 GETKEY A$
860 GOTO 30
```

PATTERN

Machine Plus 4
by Steven Bell

Pattern is a very interesting effect, called moire patterns. Modify this program to create a series of patterns inside the main one so you get one square inside another.

```
10 COLOR4,1,0:COLOR0,1,0:COLOR1,14,7:GRAPHIC1,1
20 FORS=0TO320STEP+3
30 DRAW1,S,0TO160,100
40 NEXTS
50 FORT=0TO200STEP+3
60 DRAW1,160,100TO320,T
70 NEXTT
80 FORE=320TO0STEP-3
90 DRAW1,160,100TOE,200
100 NEXTE
110 FORV=200TO0STEP-3
120 DRAW1,160,100TO0,V
130 NEXTV
140 GETKEYA$:GRAPHIC0
```

SKETCHER

Machine Plus 4
by Steven Bell

Sketcher is a simple joystick drawing program. Very simple to use, which shows you how to drive the graphics.

```
10 GRAPHIC0,1
20 COLOR4,1:COLOR0,1
```

```
30 PRINT:PRINT"[YEL][CR8]SKETCHER BY STEVEN BELL"
40 PRINT"[CR8]────────────────────────"
50 PRINT"[CD3][CR2]THIS IS A JOYSTICK (PORT 1) CONTROLLED"
60 PRINT"[CR2][CD]DRAWING PROGRAM.IF YOU WANT TO CHANGE"
70 PRINT"[CR2][CD]COLOUR PRESS THE FIRE BUTTON AND YOU"
80 PRINT"[CR2][CD]WILL RETURN TO THIS TITLE SCREEN[CD3]"
90 INPUT"[CD]COLOUR (1-16)";A
100 IFA>16THEN90:IFA<1THEN90
110 INPUT"[CD]LUMINANCE (0-7)";B
120 IFB>7THEN110:IFB<0THEN110
130 COLOR4,2,6:COLOR0,2,7:COLOR1,A,B
140 INPUT" CLEAR SCREEN (Y/N)";C$
150 IFC$="Y"THEN GRAPHIC1,1
160 GRAPHIC1:X=1:Y=1
170 C=JOY(1)
180 IFX=<0THENX=0
190 IFY=<0THENY=0
200 IFX=>199THENX=199
210 IFY=>319THENY=319
220 IFC=1THENX=X-1
230 IFC=5THENX=X+1
240 IFC=3THENY=Y+1
250 IFC=7THENY=Y-1
260 IFC=128THEN10
270 DRAW1,Y,X
280 GOTO170
```

PROGRAM AMENDMENT

A number of people have contacted us regarding a missing line from the BASIC-AID program in November 1989 issue of Commodore Computing International, line 210 was not printed. Our sincere apologies, here is the "missing" line 210.

BASIC-AID

FGAN 210 DATA 164,251,166,252,024,032,240,255,096,032,014,192,132,251,2101

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S–ENTRY

C64/128

BASIC COMMANDS

S–ENTRY intercepts several vectors in the operating system, and because of this the normal basic commands are not available ... don't worry ... you can still use them by prefixing the command with the @ symbol, so SAVE would become @SAVE, etc.

NOTE: do not use any DOS wedge, or you will confuse S–ENTRY.

S–ENTRY DISABLE

Before you run any programs that you have entered, S–ENTRY MUST BE DISABLED. Enter an ! on its own and S–ENTRY will be removed from memory and the normal operating system restored. REMEMBER ALWAYS SAVE A PROGRAM BEFORE YOU RUN IT!

MISSING LINES

In order to provide you with a flexible system, S–ENTRY only checks on a line by line basis. So if you miss out line 540 say, S–ENTRY will NOT report an error.

This may sound odd, but it does allow you to enter part of the program, then save it and come back to it at a later date. This is also helpful if you and several friends are splitting up the job of entering a large program, each person will be able to say that what has been entered is correct.

To make sure that you have the entire program entered correctly, Enter type '&' symbol on its own. S–ENTRY wil then calculate the S–ENTRY code for the program in memory, you can compare this with the final S–ENTRY code printed at the end of the listing.

ADVANCED USE

If you think you are good enough not to use the S–ENTRY system, you can simply enter the normal basic lines after the S–ENTRY code. But what if you get it wrong? Well S–ENTRY has a command that will produce a summary of the S–ENTRY code and the line number ion memory; you can then compare this with the published S–ENTRY codes and thus track down the problem. This command is «–LIST; you can pause the list by using the Shift/Shift Lock keys. The command will also accept a line numbner range, i.e. 100-200 or 200- etc.

The ONLY difference that S–ENTRY makes to the published listing is the addition of the four character code before the line number, and the addition of the final S–ENTRY code at end of the listing.

S–ENTRY COMMAND SUMMARY

&	Calculates the S–ENTRY code for the entire program in memory.
@	Prefix to a basic command ie @DSAVE or @LOAD
!	Remove S–ENTRY
«–LIST	Display S–ENTRY code summary, use shift/shift lock to pause.

YOU MUST

1. Use EXACTLY the same line numbers.
2. Enter the program exactly as printed, including all REMs.
3. Use EXACTLY the same commands, FULL command names MUST be used, ie '?' cannot be used instead of PRINT.
4. Remember to convert the easy enter codes ie [SP9] means type 9 spaces.
5. Type anything between " " (quotes) EXACTLY as published.

```
100 REM
110 REM*********************************
120 REM*                               *
130 REM*          CCI S-ENTRY          *
140 REM*                               *
150 REM*       FOR THE C64 & C128     .*
160 REM*                               *
170 REM*(C)1989,A.ESKELSON & G.CATTLEY*
180 REM*                               *
190 REM*********************************
200 REM
210 M1=256*PEEK(179)+PEEK(178):C8=65281:C9=C8-2:FA=250:FB=251:FC=252
220 POKE C8,00:REM IF 128 SET BANK 0
230 MC=M1+9:CC=0:FOR I=0 TO 61:READ ZZ
240 CC=CC+ZZ:POKE M1+I,ZZ:NEXT I
250 REM DATA FOR CRC
260 DATA 169,000,133,250,133,251,133,252,096,169,000,133,252,162,008,165
270 DATA 250,042,038,253,042,042,042,042,042,069,253,133,253,165,250,069
280 DATA 253,133,253,165,251,042,042,042,069,253,133,253,038,252,042,069
290 DATA 253,106,038,251,038,250,202,208,214,166,251,165,250,096
300 IF CC<>9069 THEN PRINT"ERROR IN CHECKSUM DATA":STOP
310 REM
320 REM TEST FOR C128/C64
330 IF M1=2816 THEN C64=2:SA=3072:GOTO 360
340 IF M1=828 THEN C64=1:SA=49152:GOTO 360
350 PRINT"ERROR NOT C64 OR C128 ?":STOP
360 READ TC:EQ=0:EA=SA:SYS M1
370 HB=INT(SA/256):LB=0
380 REM START OF LOOP
390 READ DA$:REM READ THE DATA
400 IF DA$="-9999" THEN 480:REM FINISHED ALL THE DATA
410 DA=VAL(DA$):PRINTSA;CHR$(145)
420 IF LEN(DA$)<>3 THEN 450
430 POKE SA,DA:SA=SA+1
440 POKE MC+1,DA:SYS MC:GOTO 390
450 A%=PEEK(FA):X%=PEEK(FB):CK=A%*256+X%
460 IF CK<>VAL(DA$) THEN EQ=1:GOTO 480
470 GOTO 390
480 IF EQ OR (CK<>TC) THEN 510
490 POKE FA,LB:POKE FB,HB:POKE FC,C64:SYS EA
500 PRINTCHR$(147);"S-ENTRY ACTIVE. TYPE '@NEW' TO CLEAR LOADER":END
510 PRINT"LINE/DATA ERROR IN LINE";
520 PRINT PEEK(66)*256+PEEK(65):END
530 DATA 44232
540 DATA 024,165,250,105,028,133,176,165,251,105,002,133,177,169,000,170,48900
550 DATA 168,024,177,176,133,254,200,177,176,101,251,133,255,200,177,176,00903
560 DATA 201,255,240,008,024,101,251,129,254,200,208,229,024,165,250,105,18744
570 DATA 112,133,176,165,251,105,002,133,177,024,165,250,105,126,133,254,17887
580 DATA 165,251,105,000,133,255,162,000,164,252,177,176,072,161,176,240,44466
590 DATA 017,168,104,145,254,165,176,024,105,003,133,176,144,002,230,177,32098
600 DATA 208,230,104,169,000,141,005,003,169,126,141,004,003,169,000,133,49661
610 DATA 252,173,038,003,141,152,002,173,039,003,141,153,002,096,160,000,49456
620 DATA 132,251,132,250,132,180,132,254,132,253,185,000,002,201,032,208,52892
630 DATA 003,200,208,246,201,095,208,017,072,169,171,141,038,003,169,002,22812
640 DATA 141,039,003,032,154,002,104,208,053,072,173,152,002,141,038,003,55274
650 DATA 173,153,002,141,039,003,104,201,064,240,035,201,033,240,013,201,41233
660 DATA 038,208,033,076,068,001,173,141,002,208,251,096,169,067,141,005,20351
670 DATA 003,169,013,141,004,003,169,000,153,000,002,076,013,067,032,128,63881
680 DATA 003,024,144,247,165,252,240,007,169,000,133,252,024,144,236,132,15406
690 DATA 252,152,024,105,004,168,185,000,002,240,007,032,211,001,200,208,05629
700 DATA 245,000,164,252,162,001,185,000,002,072,169,032,153,000,002,104,21893
710 DATA 056,233,065,024,010,010,010,010,133,252,200,185,000,002,072,169,54075
720 DATA 032,153,000,002,104,056,233,065,041,015,005,252,213,250,208,011,11281
730 DATA 200,202,016,210,169,255,133,252,076,209,077,169,000,133,252,162,54224
740 DATA 022,108,000,003,162,001,181,045,149,176,202,016,249,141,001,255,56924
750 DATA 160,000,132,251,132,250,132,180,132,254,132,253,160,001,177,176,45691
760 DATA 240,040,200,177,176,032,211,001,200,177,176,032,211,001,200,177,58968
770 DATA 176,240,007,032,211,001,200,016,246,000,160,000,132,254,177,176,22791
780 DATA 170,200,177,176,134,176,133,177,208,210,160,000,140,000,255,185,63767
790 DATA 154,001,240,022,032,210,255,200,208,245,083,045,069,078,084,082,26008
800 DATA 089,032,067,079,068,069,032,061,032,000,162,001,181,250,072,041,42873
810 DATA 240,074,074,074,074,024,105,065,032,210,255,104,041,015,024,105,62214
820 DATA 065,032,210,255,202,016,229,141,003,255,169,000,141,000,002,076,51028
830 DATA 222,000,096,201,034,208,008,072,165,254,073,255,133,254,104,201,08627
840 DATA 032,208,004,036,254,016,052,133,180,169,001,072,165,251,041,128,08832
850 DATA 042,038,253,165,251,041,008,106,106,106,069,253,133,253,165,251,26391
860 DATA 069,253,133,253,165,250,042,042,042,069,253,133,253,038,180,042,59214
870 DATA 069,253,106,038,250,038,251,104,010,144,208,096,100,000,000,197,16654
880 DATA 000,001,253,000,001,103,001,001,109,001,001,117,001,001,145,001,10659
890 DATA 001,209,001,000,118,000,002,124,000,002,159,000,002,165,000,002,52822
900 DATA 172,000,002,178,000,002,211,002,002,001,003,002,010,003,002,019,14849
910 DATA 003,002,035,003,002,050,003,002,028,003,002,231,002,002,222,002,52909
920 DATA 001,047,003,002,194,002,002,200,002,002,042,003,000,255,255,255,04528
930 DATA 079,165,067,084,124,013,094,124,013,095,165,067,201,043,045,097,06351
940 DATA 115,128,098,000,003,187,138,209,188,164,077,073,141,211,074,002,22835
950 DATA 000,300,064,064,064,064,064,032,000,000,160,000,132,251,132,250,37171
960 DATA 132,180,132,254,132,253,132,177,132,176,096,134,182,132,181,201,46369
970 DATA 013,240,054,166,177,208,037,201,058,176,038,201,046,208,016,072,22106
980 DATA 173,152,002,141,038,003,173,153,002,141,039,003,104,208,018,164,50064
990 DATA 176,153,146,002,230,176,201,032,208,002,230,177,032,211,001,169,15787
1000 DATA 001,166,182,164,181,108,152,002,096,164,177,240,244,169,002,072,30286
1010 DATA 168,136,185,250,000,072,041,240,074,074,074,074,024,105,065,032,48296
1020 DATA 225,002,104,041,015,024,105,065,032,225,002,104,074,144,224,169,27482
1030 DATA 061,032,225,002,169,000,133,176,164,176,185,146,002,201,032,240,17276
1040 DATA 007,032,225,002,230,176,016,240,032,198,000,169,013,032,154,002,25087
1050 DATA 076,225,002,255,44232,-9999
```

Lo Res Plot

Machine - C16 and Plus/4 by D Broad

Part one of a program making use of a low resolution mode found on all the older Commodore computers.

```
10 REM LO-RES PLOT FOR THE C16 AND +4
20 REM
30 REM BY D.M.BROAD
40 REM
50 REM TO ENTER THIS LISTING,  TURN ON COMPUTER AND TYPE
60 REM POKE 44,32:POKE 46,32:POKE 48,32:POKE 50,32 POKE 8192,0 : NEW
70 REM
80 REM ENTER THIS LISTING, SAVE PROGRAM, TEST PROGRAM BY RUNNING IT
90 REM THE PROGRAM WILL INDICATE ERRORS AND DISPLAY AN ERROR MESSAGE
100 REM CORRECT ERRORS, AND WHEN NO MORE ERRORS ARE REPORTED SAVE
110 REM THE PROGRAM.
120 REM
130 REM ENTER THE MONITOR AND TYPE S"PLOT" D 1001 156A
140 REM D IS THE DEVICE EG 8 = DISK
150 ENTER G1013 FROM MONITOR TO RUN
160 REM
170 REM THE FILE "PLOT" ONLY NEEDS TO BE LOADED AND THEN RUN
180 REM ONCE IT HAS BEEN CREATED
190 REM
1000 PL=4096: L=2000
1010 C=0
1020 FOR Z=0 TO 7: READ N: POKE PL,N
1030 :PL=PL+1       : C=C+N
1040 NEXT Z
1050 READ S
1060 IF C<>S THEN PRINT "ERROR IN" L
1070 L=L+10
1080 IF S>0 THEN 1010
1090 END
1100 :
2000 DATA 000,011,016,010,000,158,052,049,0296
2010 DATA 049,053,000,000,000,000,000,000,0102
2020 DATA 076,121,016,076,068,016,080,019,0472
2030 DATA 046,018,030,019,063,019,054,017,0266
2040 DATA 102,019,105,019,241,019,205,019,0729
2050 DATA 221,019,237,019,248,019,184,020,0967
2060 DATA 202,020,255,019,236,020,050,017,0819
2070 DATA 028,020,016,017,046,017,208,016,0368
2080 DATA 211,016,101,016,032,046,128,169,0719
2090 DATA 107,133,043,169,021,133,044,169,0819
2100 DATA 000,141,106,021,032,023,129,032,0484
2110 DATA 123,138,032,194,128,032,080,019,0746
2120 DATA 162,128,108,000,003,160,001,152,0714
2130 DATA 145,043,032,024,136,032,075,136,0623
2140 DATA 133,047,132,048,133,049,132,050,0724
2150 DATA 096,169,000,141,128,003,141,129,0807
2160 DATA 003,141,130,003,141,131,003,032,0584
2170 DATA 174,016,173,128,003,201,023,176,0894
2180 DATA 026,010,170,189,022,016,141,169,0743
2190 DATA 016,189,023,016,141,170,016,174,0745
2200 DATA 129,003,172,130,003,173,131,003,0744
2210 DATA 076,255,255,076,028,153,032,151,1026
```

```
2220 DATA 168,142,128,003.032,157,168,032,0830
2230 DATA 151.168.142,129,003.032,157,168,0950
2240 DATA 032,151.168,142,130,003,032.157,0815
2250 DATA 168,032,151,168,142,131,003,096,0891
2260 DATA 174,074,003,173,074,003.072.142.0715
2270 DATA 074,003,189,096,003,024,253,080,0722
2280 DATA 003,133,214,189,104,003,056,253,0955
2290 DATA 088,003,133,215,173,075,003,072,0762
2300 DATA 169,064.141,075,003.166,214,160,0992
2310 DATA 000,032,241,019,166,214,164,215,1051
2320 DATA 032,046,018,198,214,016,238,104,0866
2330 DATA 141,075,003,104.141,074,003,096,0637
2340 DATA 169,076,141,137,017,032,054,017,0643
2350 DATA 008,169,032,141,137,017,040,208,0752
2360 DATA 010,164,210,185,072,021,134,208,1004
2370 DATA 037,208,096,169,128,096,142,104,0980
2380 DATA 021,096,142,076,003.096.138,048,0620
2390 DATA 252.174,074,003,024,125,080,003,0735
2400 DATA 221,096,003,176,240,170,152,048,1106
2410 DATA 236,172,074,003,024,121,088,003,0721
2420 DATA 217.104,003,176,224,168,032,092,1016
2430 DATA 017,076,133,017,152,041,001,133,0570
2440 DATA 210,152,041,254,168,185,022,021,1053
2450 DATA 133,208,185,023,021,133,209,138,1050
2460 DATA 074,008,024,101,208,133,208,144,0900
2470 DATA 002,230,209,040,144,006,165,210,1006
```

to be continued next month

Program Submission Procedure

DO NOT submit any program or routine that you do not either own or have authority to do so.

ALWAYS include your name, address and date on all material sent.

NEVER use staples, use paperclips if necessary.

If you are using TAPE save the program at least TWICE on each side. DO NOT USE TURBO SAVE SYSTEMS.

If you are using DISK save the program at least twice and call the second program BACKUP.

IDENTIFY your tape/disk with: your name and address, the program name and WHAT COMPUTER it is for.

PLEASE do not submit hand-written work, unless it is unavoidable. * Note *** you can always write your instructions in the form of a computer program, eg 1 PRINT 'your text' etc.**

INCLUDE a short statement of what your program is supposed to do.

IF YOU USE A WORDPROCESSOR supply a standard ASCII file of the article, this allows us to load it into our standard wordprocessors.

INCLUDE the following STANDARD header on all programs. Even if your program is in multiple parts, include this information on each part
(this will be stripped off prior to publication).

NAME ....
ADDRESS
ADDRESS
ADDRESS
POSTCODE
COUNTRY
TELEPHONE No. (if poss).
COMPUTER
DOS/ROM TYPE
PROGRAM NAME

ALWAYS ensure that disks are well packed, Use a commercial disk mailer or at least packed between two pieces of thick cardboard or rigid plastic.

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Please allow at least 8 weeks for acknowledgement as all programs have to be thoroughly tested and put into a suitable format.

Enclose a, self-addressed stamped envelope or package if you would like your program to be returned.

Overseas submissions can use IRC's International Reply Coupons.

*** Programming Tips ***

If you can, use CHR$(x) type commands instead of graphic characters.

Renumber your program in a standard form, most readers use auto number utilities to ease typing in.

Try to keep instructions within the program fairly short. You can expand on them within the text if necessary

TEST YOUR PROGRAMS..better still get a friend to test them for you.

IF YOUR PROGRAM CONTAINS MACHINE CODE: Please use DECIMAL data statements, NOT HEX for the BASIC loader. Keep the same number of data statements on each line (MAX 14) and use the three digit format if possible. eg 000,010,243,001 etc.

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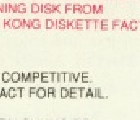

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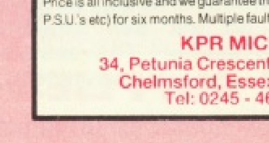

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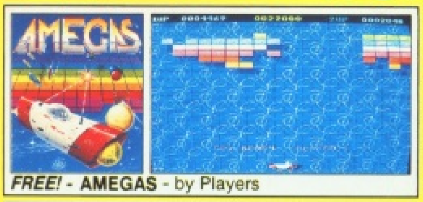

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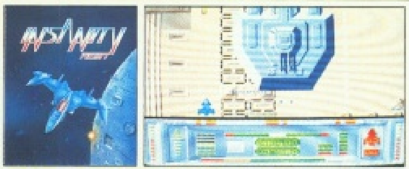

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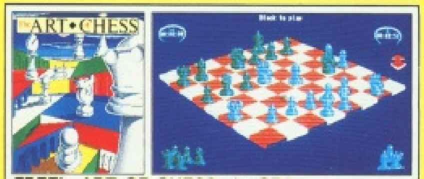

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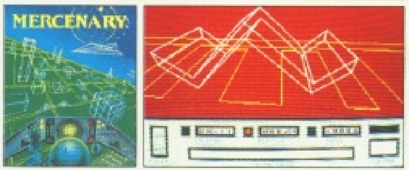

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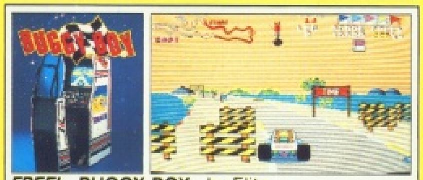

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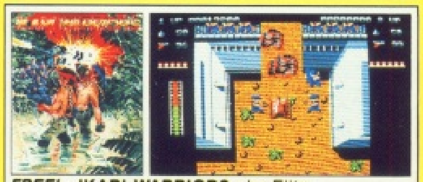

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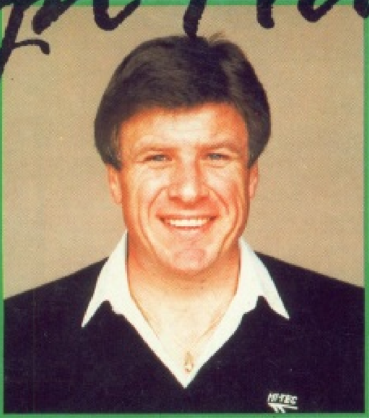

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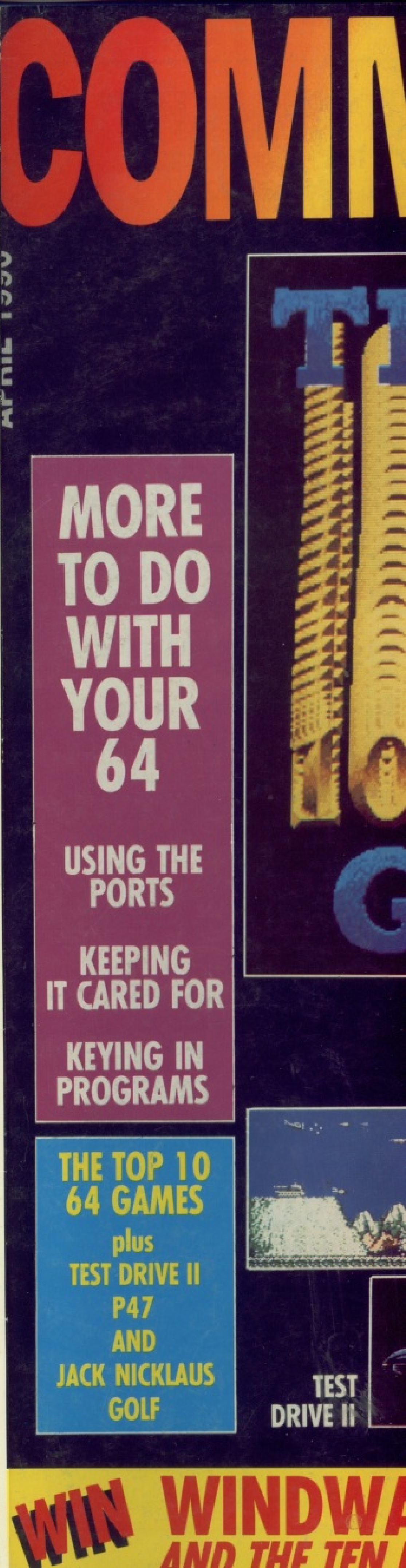
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